

Environmental Master Plan



Our Environmental Management

2021-2026





Our Environmental Management
Environmental Master Plan 2021 - 2026

Adopted by Beaumont City Council as a guiding strategic document on August 10, 2021.

Prepared for the City of Beaumont by Intelligent Futures.

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City of Beaumont
5600 49 Street
Beaumont AB
T4X 1A1

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Preamble



Land Acknowledgment

We are pleased to be here today on the traditional territory of Treaty 6 and the Métis homeland. We acknowledge all those who share a deep connection with this land. The City of Beaumont respects the histories, languages, and cultures of all of Canada's First Peoples, whether they be of First Nation, Métis, or Inuit descent, and appreciates that their presence continues to enrich Canada's vibrant communities. We are all Treaty people. The Peace Treaties bind us all.

Plan Acknowledgments

The 2021 - 2026 **Our Environmental Management Environmental Master Plan** (EMP) was the result of significant collaboration between the City of Beaumont, public and volunteer stakeholders, and Intelligent Futures.

The EMP project team would like to extend their sincere appreciation to those who provided time, energy, and feedback to help shape the final Environmental Master Plan through interviews, questionnaires, meetings, reviews, and presentations.

City of Beaumont Council and administration played vital roles in shaping the Environmental Master Plan during the 2020-2021 planning process.

City of Beaumont Council

Mayor John Stewart

Councillor Kathy Barnhart

Councillor Bill Daneluik

Councillor Perry Hendriks

Councillor Sam Munckhof-Swain

Councillor Martin Stout

Councillor Steven vanNieuwkerk

City of Beaumont Project Team / Working Group

Joannes Wong, Planning & Development

Joanne Dargis, Planning & Development

Kendra Raymond, Planning & Development

Aleshia Kwasny, Planning & Development

Lisa Drury, Planning & Development

City of Beaumont Project Team / Working Group, cont.

Teaka Broughm, Planning & Development

Yasmin Sharp, Planning & Development

Emily Sangster, Planning & Development

Iolanda Troiani, Planning & Development

Andrea Koropeski, Planning & Development

Carla Putnam Kerr, Communications & Marketing

Paul Suiter, Community Services

Jennifer Boso-Hudak, Operations

Mike Berezowsky, Communications & Marketing

Curtis Dublanko, Finance

Keaton Seaby, Operations

Amanda Cuthbert, Community Services

Sarah Fodchuk, Family & Community Support Services

Brodie Stenhouse, Family & Community Support Services

Wendy Jones, Economic Development

Jodie Vesso, Family & Community Support Services

Adrienne King, Family & Community Support Services

Jason Angus, Operations

Former Working Group Members

Alyssa Carson

Maya Filipovic

Ian Frankton

Paxton Porter

Stephen Raitz

Tyler Tymchyshyn





Executive Summary

With the introduction of the **Our Environmental Management Environmental Master Plan (EMP)**, the City of Beaumont continues its commitment to environmental sustainability and the plans, policies, and services that support it. As the successor to the 2013 *Keep It Green Beaumont Environmental Master Plan*, this document provides the strategic vision and detailed direction necessary to guide the City and community of Beaumont towards an environmentally sustainable future. To accomplish this, the EMP provides a long-term vision, clear goals, measurable indicators, and a detailed approach to implementation comprising supporting organizational moves and 14 key actions.

Environmental Vision

The City and community of Beaumont work together to make sustainable choices every day to preserve the natural environment for future generations.

The EMP is centered on a 30-year vision for environmental progress that, while simple and approachable, is impactful and forward-looking.

Focus Areas and Supporting Actions



The EMP is intended to be an adaptable and evolutionary document that builds on the City's current priorities while being responsive to changing conditions. The plan includes six key focus areas that will help guide action towards the vision: **Air, Community Design, Ecology, Energy, Waste, and Water**. Each of the six focus areas includes a goal, supporting indicators, and several guiding policy statements to assist in environmental decision-making. Impact across these focus areas is realized through their alignment with the EMP's 14 key actions.

Prioritizing Implementation

The EMP provides a well-defined implementation framework to help both the City and community of Beaumont understand how best to implement the plan, build partnerships, and act with intention.

Three implementation pillars—focused on **(1) staffing and resources**, **(2) coordination and collaboration**, and **(3) measurement and monitoring**—are provided as a strong foundation for environmental action and progress towards the vision. Roles within this framework provide guidance for the individuals and groups beyond the City of Beaumont who can contribute to implementation.

The implementation framework is premised on an approach to continual learning and improvement that will accelerate progress towards the vision over time. The framework approach includes four steps: **(1) Act**, **(2) Report**, **(3) Assess**, and **(4) Adjust**. Together, these steps enable opportunities for frequent review, reflection, and adjustment in support of the vision and future iterations of the Environmental Master Plan.

The framework, together with the 14 key actions, provides a comprehensive and structured approach to environmental progress, operational efficiency, and community well-being in Beaumont.





1.0

Introduction

1.1 Context

In 2012, the City of Beaumont commissioned Beaumont's first Environmental Master Plan (EMP) to promote an integrated approach to sustainability. The EMP planning process explored the "triple bottom-line" elements of economic, environmental, and social sustainability in terms of both day-to-day municipal operations and long-term community development.

While largely focused on programs and initiatives to be delivered by the City of Beaumont, the EMP also included several initiatives for residents, businesses, and community groups to undertake to support the plan's sustainability goals. The first Beaumont Environmental Master Plan—*Keep It Green Beaumont*—was approved by Beaumont Council on October 8, 2013. Since 2013, the City of Beaumont has implemented a number of the programs, plans, and initiatives included in Beaumont's first Environmental Master Plan.

In the years since the plan's approval, Beaumont—and indeed, the world—has changed. The impact of climate change has been increasingly felt in communities across Canada, with severe weather events, habitat collapse, and ecological degradation becoming ever more frequent.¹ More recently, the arrival of the COVID-19 pandemic has resulted in untold dislocation across the world, including illustrating our relationship to the environment and how human impacts may have unanticipated side effects on the environment, the economy, and society.

Alongside these external forces, the context for environmental governance has changed. In 2015, the Government of Canada became one of 196 countries to adopt the internationally-binding Paris Agreement in an effort to limit global warming below two degrees Celsius. In a similar vein, the country's federal, provincial, and territorial governments advanced the *2020 Biodiversity Goals and Targets for Canada*, encouraging improved land use planning, focused conservation efforts, and greater communication and outreach to the public.

Within the region, the Capital Region Board was replaced by the Edmonton Metropolitan Region Board (EMRB), and in October 2017, the guiding *Edmonton Metropolitan Region Growth Plan* received provincial approval. In Beaumont, the most recent *Our Beaumont Municipal Strategic Plan* (2017), *Our Complete Community Municipal Development Plan* (2019), *Our Inclusivity Social Master Plan* (2019), *Our Places and Play Recreation, Parks and Facilities Master Plan* (2019) and *Our Connectivity Transportation Master Plan* (2020), among others, have advanced a new direction for our community.

Concurrently, The Truth and Reconciliation Commission of Canada (TRC) emerged as a product of the Residential Schools Settlement Agreement between the Government of Canada and Indigenous peoples enrolled in the residential school system. The TRC's final report, released in June 2015, includes 94 calls to action to foster reconciliation between Canadians and Indigenous peoples. Concerning the environment, the TRC provides direction for levels of government to adopt the *United Nations Declaration on the Rights of Indigenous Peoples*. This declaration recognizes the primacy of Indigenous knowledge, culture, and practice in sustaining and responsibly managing the environment for future generations.

Within Beaumont, the *City's Strategic Plan*, *Municipal Development Plan*, and *Social Master Plan* require that municipal program delivery and policy development reflect, recognize, and respect the community's Indigenous peoples, their history and culture, and connection to the land.

From significant global forces to local guiding policy, each of these important factors have been integrated into the environmental planning framework and is reflected in its product, *Beaumont's Environmental Master Plan: Our Environmental Management*.

1.2 Rationale

We each approach the environment differently. For some, the environment is the backdrop to leisure and recreation, while for others, it is a resource to be developed and maintained, or to be conserved for future generations. Regardless of how we view the environment, how we relate to it, and our place in it, the common factor that unites us all is our dependence upon it. This sentiment exists at the core of the Environmental Master Plan, and will guide the direction of the plan and its future vision for the environment in Beaumont.

The Environmental Master Plan will help the City of Beaumont position the environment as a key element of municipal decision-making and governance. It will also help the City build capacity for positive change both within the municipal government and the community, realize environmental progress across each of the six focus areas, and support other ongoing and anticipated plans, policies, and initiatives that promote environmental management in Beaumont.

1. Insurance Bureau of Canada and Federation of Canadian Municipalities, "Investing in Canada's Future: The Cost of Climate Adaptation," September 2019.



The EMP is aligned with a regional commitment to environment, social, and governance (ESG) practice. With reference to the EMRB's *2021-2024 Strategic Plan*, the Beaumont EMP aligns with "Priority 2: Commit to Environmental, Social, and Governance (ESG) Practices and Policies." This is done through the EMP's core emphasis on environmental protection; its continued opportunities for engagement with Beaumont residents, businesses, volunteer groups, schools, and Indigenous communities in the region on topics of environmental concern; and its transparent and continual reporting structure.

1.3 Structure

The Environmental Master Plan is the City of Beaumont's primary strategic plan to guide responsible environmental stewardship for the next 30 years, in five-year intervals. The EMP includes direction for high-level process improvements, policy recommendations, and individual initiatives and projects that will support environmental health in Beaumont.

The Plan will coordinate municipal and community action to realize a long-term vision and supporting goals for environmental management in Beaumont. This strategic direction is made possible through a number of mutually supporting components of the Environmental Master Plan:

- A set of measurable indicators that allow the assessment of environmental progress and which will inform the development of future environmental performance targets
- A framework to collect and include data in municipal decision-making
- A detailed approach to implementation that prioritizes internal coordination, community engagement, and long-term monitoring
- An exploration of the various roles that the City of Beaumont may play in promoting environmental progress
- 14 key actions within the first five-year interval (beginning in 2021) to build a foundation for future strategic planning efforts and long-term environmental progress

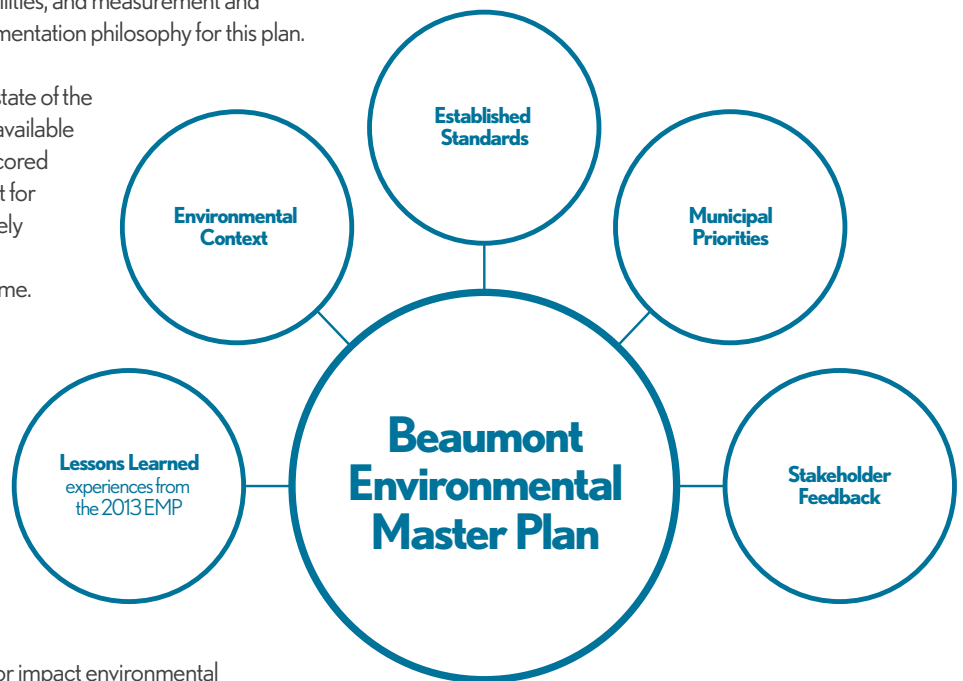
The actions included in the EMP are intended to span a five-year interval from 2021 to 2026, with a review of progress and an update to the plan expected in 2027-2028. Potential future actions—those that were considered in this process but did not become a key action—are included in **Appendix A: Potential Future Actions**, and may be revisited in future iterations of the Environmental Master Plan.



1.4 Guidance

A key question for any master plan is why certain items were included, while others were not. The strategic direction for the Environmental Master Plan was informed by several different inputs to the planning process. Each of these inputs—lessons learned, environmental context, established standards, policy framework, and stakeholder input—were considered and balanced against each other to arrive at the direction for this plan. These five inputs are described below:

- **Lessons learned:** The experience and outcomes associated with the 2013 *Keep It Green Beaumont Environmental Master Plan*. The Plan was reviewed early in the process to understand where it succeeded, where it fell short, and what lessons could be drawn from its implementation. These lessons—focused on clarity, communication and engagement, roles and responsibilities, and measurement and monitoring—have informed the implementation philosophy for this plan.
- **Environmental context:** The current state of the environment, as understood through available data and indicators. This input underscored both the potential focus areas to target for improvement and the need to effectively measure and monitor environmental performance to track progress over time.
- **Established standards:** The standards and science used by the Governments of Canada and Alberta, supranational institutions, and environmental non-governmental organizations to realize environmental progress.
- **Municipal priorities:** The policies at federal, provincial, and municipal levels which can influence, align with, or impact environmental service delivery in Beaumont. The City of Beaumont's established policy framework was reviewed, with relevant direction from other documents identified and re-interpreted through an environmental lens.
- **Stakeholder input:** Insight and feedback concerning both the state of the environment in Beaumont and potential direction for the EMP was collected and considered during engagements held in Phases 2 (Engage) and 4 (Review) of the planning process. Stakeholder feedback is discussed further in [Section 1.5](#) and in [Appendix B: Engagement Results](#).



1.5 Plan Development Process

The Environmental Master Plan was developed through a four-phase planning process that brought together an assessment of Beaumont's environmental context, a review of comparator municipalities in the Edmonton Metropolitan Region in specific and Alberta in general, ongoing engagement with stakeholders using multiple outreach methods, and consultation with the City of Beaumont's administration and Council. To create the Environmental Master Plan, the planning process included four phases to (1) Assess, (2) Engage, (3) Plan, and (4) Review.

Phase 1: Assess

The first phase was designed to build a foundational understanding of environmental context and action in Beaumont, and was conducted from August to October 2020. The EMP project team completed a review of the 2013 Plan implementation, analyzed active City policies and plans to create a planning framework for environmental action, sought feedback from key stakeholders within the City of Beaumont related to current and potential future experience with EMP implementation, and conducted benchmark research to understand environmental performance in Beaumont and comparator municipalities.

The benchmarking research explored available environmental performance data and identified measurement gaps. The exercise provided a context for indicator development, potential target setting, and data collection based on data made available by 16 municipalities in Alberta. The environmental scan was restricted to municipalities located in Alberta, given the shared legislative, political, and economic context. The majority (10) of selected municipalities are members of the Edmonton Metropolitan Region, with the remainder drawn from Central Alberta and the Calgary Region.² Data used in this exercise was drawn from the most current, publicly available reporting provided by municipalities, regional boards, and utility providers. For more information, see **Appendix C: Municipal Benchmarking**.

Phase 2: Engage

The second phase focused on engaging Beaumont residents, businesses, and volunteer groups to gather their insights and feedback on the current and potential future state of the environment in Beaumont. Including post-engagement analysis and reporting, the phase ran from November 2020 to January 2021.

For a period of four weeks from November 2 to 30, 2020, 41 citizens offered feedback into three areas of focus:

- What issues are of greatest concern to the health of the environment in Beaumont?
- How should the City of Beaumont prioritize its environmental service delivery?
- What role should individuals and community groups in Beaumont play in promoting positive environmental impact?

Taking place at a time of social distancing due to the COVID-19 pandemic, the process drew on digital engagement methods to seek feedback. Participants offered feedback through online questionnaires, "user experience" interviews conducted via video teleconference, and the City's social media platforms. A community workshop was organized and delivered on November 25, 2020 via video conference but concluded early due to lack of community and other stakeholder attendance. The workshop was intended to provide the opportunity for an in-depth discussion about the key issues impacting Beaumont's environment, and how those impacts influence the lived experience of workshop attendees.

For in-depth reporting and outcomes of Phase 2, refer to **Appendix B: Engagement Results**, which reproduces the January 2021 "What We Heard" report in full.

41

participants in Phase 2

182

participants in Phase 4

2. Edmonton Metropolitan Region (Edmonton, Strathcona County, St. Albert, Spruce Grove, Parkland County, Leduc [City and County], Fort Saskatchewan, Sturgeon County, and Stony Plain), Calgary, Red Deer, Lethbridge, Medicine Hat, Airdrie, and Okotoks.

Phase 3: Plan

The third phase of the process explored the key gaps, established and emerging policy direction, and stakeholder feedback to develop a draft Environmental Master Plan for review. The phase ran from January to March 2021 and resulted in a comprehensive plan that spans six focus areas and is responsive to both the existing environmental advantages as well as new opportunities in Beaumont.

As part of this process, the project team facilitated an intensive three-day “Strategy Sprint” in February 2021. Within the Sprint, key stakeholders from across the City of Beaumont administration co-created the draft direction for the EMP with consideration to the guiding direction that emerged from prior phases. Participating stakeholders provided feedback and modifications to the emergent plan vision and goals, focus areas, data indicators, plan structure, and supporting actions. The emerging direction was then shared with the City’s senior leadership for further review and comment. With the core elements of the plan in place, the draft was submitted at the end of March 2021.

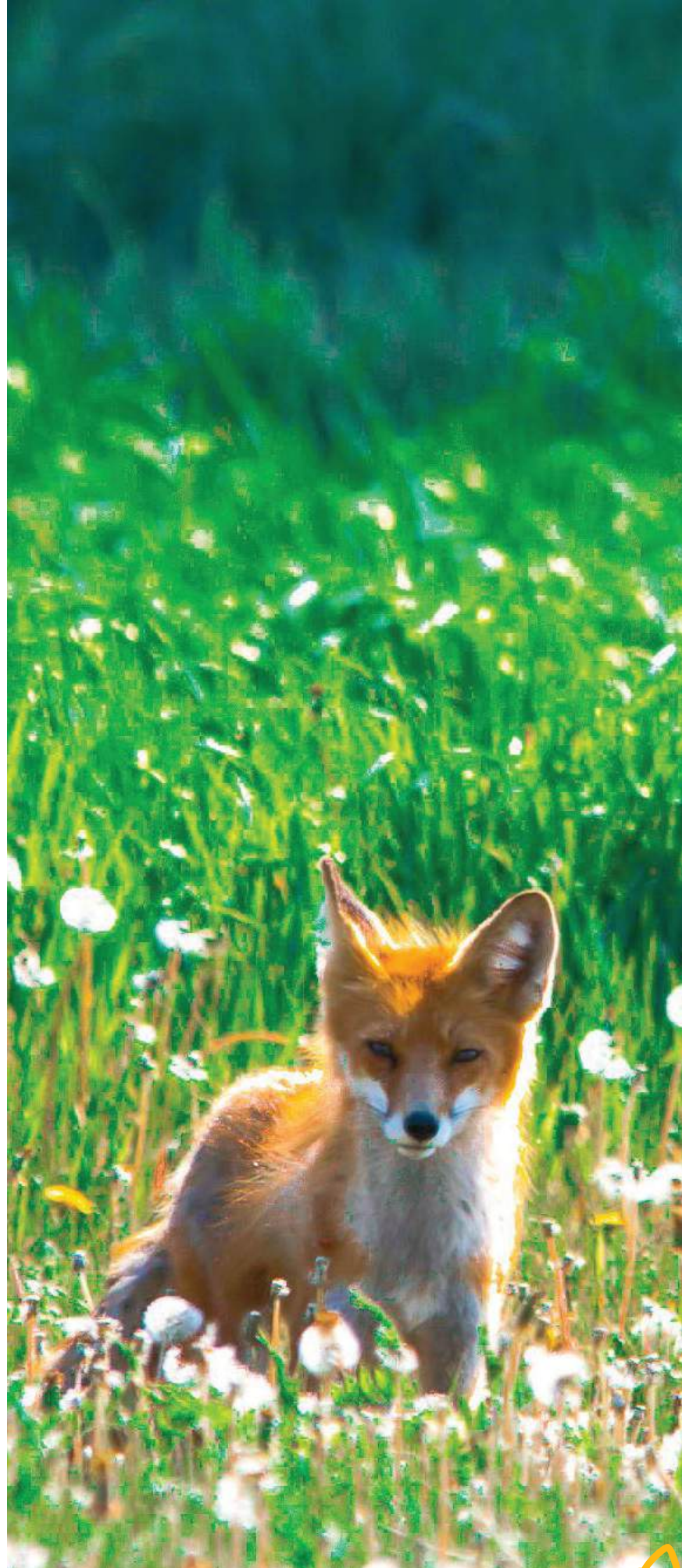
Phase 4: Review

In the fourth and final phase of the planning process, the Environmental Master Plan was circulated for review and comment by key internal, regional, and public stakeholders.

As with the prior engagement phase, this phase took place during a time when social distancing was a necessity. In response, the project team delivered an engagement process that encouraged the public to participate at their convenience across two weeks from May 14 to 31, 2021. Participants were invited to read the draft EMP, watch a walkthrough video delivered by a project team member, take a feedback survey, follow-up with project team members via email and social media, and sign up for future updates as the plan progresses.

During this period, 182 participants provided feedback on each of the 14 actions (5-point Likert scale and open text) and the overall direction of the EMP (open text). They also identified which actions they would like to participate in, or otherwise support, in implementation. Social media activity saw a further 10,031 accounts reached and 916 post engagements.

The Environmental Master Plan was revised based on this feedback and approved by Beaumont City Council in August 2021. For more information on the Phase 4 engagement results, refer to **Appendix B: Engagement Results**.



2.0

Direction

2.1 Vision

The Environmental Master Plan is animated by a long-term vision that serves as a guide for 30 years, until 2050.

The City and community of Beaumont work together to make sustainable choices every day to preserve the natural environment for future generations.

2.2 Areas of Focus



The Environmental Master Plan's strategic vision is supported by six key focus areas. Each of these areas—**air**, **community design**, **ecology**, **energy**, **waste**, and **water**—are informed by stakeholder input and extensive supporting research. Climate change is positioned as a key influencing factor across each of the six key focus areas, and thus has not been allocated as a standalone focus area. Each area of focus comprises a goal and associated policy statements, indicators, and supporting information.

These elements are defined as:

- **Goal:** An ideal state for the area of focus. Each goal interprets the high-level vision through each focus area to provide this ideal, specific state.

- **Policy Statements:** These policy statements will be used to inform environmental decision-making across the City of Beaumont. For instance, Council reports may arrive with an evaluation as to how the policy statements are supported by an item before Council.
- **Indicators:** A measure by which environmental performance can be tracked and understood over a period of time. Once a full picture of Beaumont's environmental performance is realized through a measurement and monitoring program, targets for each focus area will be developed and approved by the City of Beaumont. This process is anticipated to occur by the end of 2023, excepting the energy focus area which will see a target set by Q4 2026. An environmental scan of comparative targets and indicators is included in **Appendix C: Municipal Benchmarking**.
- **Supporting Information:** Relevant data drawn from City operations concerning corporate and community environmental performance for each focus area, where available.





Air

GOAL:

Beaumont's air is clean and continually exceeds quality standards to protect and support the health of the community and the natural environment.

DESCRIPTION:

Clean air is an essential part of environmental and human health, and is put at risk by pollutants emitted through both human activity and naturally occurring processes. Human activities that impact air quality include (but are not limited to):

- The use of fossil fuels to generate electricity and heat in buildings and to power vehicles
- The burning of wood for heating, lighting, and recreational uses
- The processing of natural resources

Natural sources of air pollution include forest fires and the emission of volatile organic compounds from animal respiration and vegetation. Air pollution can fundamentally alter ecosystem performance and health. Elevated amounts of ground-level ozone can reduce the fertility of soils and disrupt plant life. The increased presence of sulphur dioxide (SO₂) and nitrogen oxides (NO_x) contribute to the formation of acid rain, which impacts terrestrial, riparian, and aquatic environments and the wildlife that dwell within. Fine particulate matter within the atmosphere can obstruct photosynthesis and physically damage plant matter through abrasion.

The concentration of airborne pollutants in Beaumont must be regularly monitored to ensure air quality remains high as the city's land use and transportation patterns evolve, and as the Edmonton region grows.

POLICY STATEMENT:

- Improve or maintain air quality

INDICATOR:

- Number of days per year when Air Quality Health Index (AQHI) is above "Low Risk" status³

SUPPORTING INFORMATION:

In 2020, passive air quality monitoring revealed the following annual pollutant average for NO₂ and SO₂:

- NO₂: 3.31 parts-per-billion (ppb), under annual Alberta Air Quality Objective of 24 ppb
- SO₂: 0.60 ppb, under annual Alberta Air Quality Objective of 8 ppb

Air quality is not actively monitored in Beaumont; average concentrations of carbon monoxide (CO), ozone (O₃), and fine particulate matter (PM_{2.5}) are not tracked.⁴

3. The AQHI follows standards set by Health and Environment and Climate Change Canada; in Alberta, the AQHI criteria has been expanded to provide a more nuanced understanding of our air quality. AQHI considers the amount of fine particulate matter (PM_{2.5}), sulphur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), carbon monoxide (CO), and hydrogen sulphide (H₂S) in the air, and provides a number from 1 (lowest) to 10 to provide an indication of the real-time health risk posed by local air quality.

4. Active monitoring sites provide near real-time measurements of air pollutants, including those that comprise the AQHI, while passive monitoring sites provide monthly average measurements of limited air quality parameters.



Community Design

GOAL:

Beaumont is a sustainable community that supports active transportation, housing diversity, mixed-use developments, and a connected and continuous open space network to promote a high quality of life while minimizing development impacts.

DESCRIPTION:

The environmental health of a community is significantly influenced by its pattern of development over time. The design and policy decisions that inform how our communities are built—from an individual parcel to the entire city—have a number of environmental impacts. These decisions can impact how water moves through and around neighbourhoods, where wildlife choose to build habitat, the health and connectivity of local biodiversity, and how resilient the community is to extreme weather events.

In Beaumont, the strategic direction for community design is informed by the *Edmonton Metropolitan Region Board's Growth Plan*, which in turn guides policy in the *City's Municipal Development Plan* and the *Transportation Master Plan*; this direction is then integrated into lower-level strategies, plans, policies, and regulations.

These design and policy decisions can also shape the individual choices residents make every day. These choices accumulate to have a significant impact on air and water quality, energy and water use, greenhouse gas (GHG) emissions, and human health. As an example, due in part to how the country has been built, Canada's transportation sector is the second-largest generator of GHG emissions, accounting for 25 per cent of total emissions in 2019.⁵ Of this amount, 88.69 megatonnes of carbon dioxide (CO₂) was generated by passenger cars or light trucks, or approximately 47 per cent of the transportation sector's GHG emissions.

Proactive community design can improve environmental health by increasing the choices available to citizens in deciding where and how to live, work, move and play.

POLICY STATEMENTS:

- Increase diversity of housing forms to support higher densities and reduce land consumption
- Prioritize active and sustainable transportation modes
- Promote ecosystem continuity through a thoughtfully designed open space network
- Apply an ecological network approach to land-use and transportation planning decisions⁶
- Encourage net-zero urban and low-impact development

INDICATORS:

- Percentage, trips made using sustainable mode of transportation (active transportation, transit)
- Percentage, medium-to-high density and affordable housing types (apartments, townhouses, secondary suites) relative to total housing stock
- Number of green building incentive programs adopted per year
- Number of developments built with low-impact development feature(s) per year

SUPPORTING INFORMATION:

- Walk / bicycle / transit trips to work in 2016 was 2.95 per cent, 0.35 per cent, and 1.73 per cent of the total mode share.
- Regional travel via Beaumont Transit saw a 23.5 per cent increase in 2019 from the previous year, with 28,818 trips taken.
- Beaumont has seen gradual increases in semi-detached and multi-attached building permits in 2019 from the previous year, at 25 per cent and 8 per cent of total permits issued, respectively.

5. Government of Canada, "Greenhouse Gas Emissions," April 15, 2020.

6. The Edmonton Metropolitan Region Board (2017) defines an ecological network as "a coherent system of natural and semi-natural landscape elements."





Ecology

GOAL:

Beaumont's aerial, aquatic, and terrestrial health is protected, enhanced, and connected within an ecological network.

DESCRIPTION:

Ecology is the relationship between and distribution of organisms, their interaction with the wider environment, and the composition and operation of ecosystems. These ecosystems vary in complexity and size; in general, those with higher levels of biodiversity are considered more resilient, productive, and sustainable.⁷ Ecosystems function well when their native components are intact, including non-living components such as water and rocks, biodiversity such as plants and animals, and the processes that support the system, such as naturally occurring fires, floods, and predation.

The patterns and processes of urban development fundamentally alter the ecology of our natural landscape and of the ecosystem processes that support animal, plant, and human life. In 2010, the most recent survey on the nationwide health of Canada's ecosystems found that out of 22 key criteria, there were 18 that demonstrated a level of ecological disruption or concern.⁸ With a portfolio of responsibilities that includes environmental planning, urban forest management, and land use regulation, municipalities like the City of Beaumont are well placed to integrate ecological considerations into both their strategic decision-making processes and day-to-day operations.

POLICY STATEMENTS:

- Protect and restore local biodiversity
- Preserve and improve healthy riparian areas and wetlands
- Increase access to and connection with nature
- Encourage local food production
- Promote ecological resilience to climate change

INDICATORS:

- Percentage, plant and tree species diversity on public lands
- Percentage, land area under tree canopy cover
- Percentage, area of trails and open space as a proportion of total land area
- Percentage, riparian areas classified in good health and under reserve
- Number, local community food assets

SUPPORTING INFORMATION:

In 2020, Beaumont's open space system comprised over 150 hectares of parks and open space and 37.8 kilometres of trails, representing approximately 14 per cent of the total land area of the municipality.

7. James Grace, "Biodiversity critical to maintaining healthy ecosystems," USGS, January 15, 2016.

8. Canadian Council of Resource Ministers and Environment and Climate Change Canada, "Canadian Biodiversity: Ecosystem Status and Trends 2010."



Energy

GOAL:

Beaumont efficiently consumes less energy overall, with a greater share generated from renewable sources.

DESCRIPTION:

In context of the Beaumont Environmental Master Plan, this focus area refers to energy generated by both renewable and non-renewable energy sources to power our day-to-day lives. The rate of energy consumption corresponds to the economic activity and population growth within a community. Energy produced from non-renewable sources can cause serious environmental impacts, including the production of air pollutants and greenhouse gas emissions. GHG emissions are a class of gases which absorb and emit radiant heat in the atmosphere and are closely linked to climate change.

Large institutional actors and individual community members can make positive choices to reduce the environmental impact associated with energy use. Interventions include selecting energy- and water-efficient appliances, insulating and weatherizing buildings, and choosing renewable energy sources where available. These renewable energy sources, such as solar and wind energy, are found to have comparatively smaller carbon emission footprints than conventional energy sources.⁹

POLICY STATEMENTS:

- Increase energy efficiency of municipal (corporate) facilities and fleets
- Increase the amount of energy generated from renewable sources
- Promote adoption of renewable energy technologies within the community
- Reduce emissions associated with the development and transportation sectors

INDICATORS:

- Percentage, renewable energy use (corporate and community-wide)
- Percentage, reduction in greenhouse gas emissions below 2005 levels
- Number of applications made to available clean energy programs in Beaumont

INTERIM TARGET:

- “Pan-Canadian Framework on Clean Growth and Climate Change Target” (2016): 30 per cent reduction in greenhouse gas emissions below 2005 levels by 2030, net-zero greenhouse gas emissions by 2050¹⁰

The interim target shall be used until a “made-in-Beaumont” target is set through action **SP4** by the end of Q4 2026.

SUPPORTING INFORMATION:

- In 2020, operation of municipal facilities required 34,872.82 gigajoules (GJ) generated from natural gas. This represents an 11.98 per cent increase from 2019.

9. Michaja Pehl et al., “Understanding future emissions from low-carbon power systems by integration of life-cycle assessment and integrated energy modelling,” *Nature Energy* 2, 939-945 (2017).

10. Canada, “Progress towards Canada’s greenhouse gas emissions target,” modified March 3, 2021.





Waste

GOAL:

Beaumont diverts the majority of waste from landfill through responsible consumption, re-use, recycling, and composting.

DESCRIPTION:

Waste refers to the unwanted materials, by-products, and debris generated and disposed of by a community. The generation and disposal of waste is a resource-intensive and impactful process, causing the release of GHG into the atmosphere through decomposition and processing-related energy use, the loss of productive land within a community to collect, process, and/or treat waste, and negative impacts on air, soil, and water quality caused by poor waste management.

Waste is a universal issue, with jurisdictions at home and abroad considering new ways to manage the increasing amount of waste to lessen impact on human and environmental health and increase economic sustainability. The generation of waste is influenced by a number of different factors, including economic activity and affluence, community attitudes, opportunities for waste diversion, and individual choices. To reduce the environmental impact of waste, the prevention of waste generation is prioritized, followed by reuse, recycling, energy recovery, and if all else is not possible, disposal.

POLICY STATEMENTS:

- Decrease the amount of waste sent to landfill
- Minimize creation of waste in the community through reduction and reuse
- Increase waste diversion opportunities (recycling, reuse, repurpose, circular economy)

INDICATORS:

- Kilogram (kg) per-capita, community-wide composting, recycling, and waste disposal
- Percentage, waste diverted from landfill community-wide
- Percentage, contamination of composted and recycled goods

SUPPORTING INFORMATION:

- In 2020, Beaumont collectively generated 4,334 tonnes of solid waste and 2,445 tonnes of organic waste, representing a 19 per cent and 11 per cent increase from 2019, respectively.
- In the same year, 69 organic waste audits were conducted to understand the rate of contamination. In 16 per cent of the audits, processes were found to be non-compliant and were diverted to landfill.
- In the same year, residents of Beaumont made 758 trips to the Leduc Eco-Station to divert waste from landfill.



Water

GOAL:

Beaumont stewards its high-quality water resources through responsible use and consumption.

DESCRIPTION:

Water is a key element of the environment and an essential part of human life. The responsible stewardship of our shared water resources is informed by concepts of water conservation and quality, watershed health, and storm, sanitary, and surface water management. Effective municipal water and wastewater systems attend to each of these concepts to maintain the health of aquatic and riparian systems, support the wellbeing of citizens, provide leisure and recreational opportunities, and encourage the growth of a resilient local economy.

Though water resources in Canada often feel unlimited, the costs borne by municipalities to access, treat, and deliver high-quality water to their citizens are significant. Taking steps to reduce water consumption, explore more efficient means of resource management, and lessen the amount of inflow and infiltration in the sanitary sewer system will go a long way towards reducing the financial impact on the City of Beaumont, utility providers, and residents, and reducing GHG emissions associated with access, treatment, and delivery of water resources.

POLICY STATEMENTS:

- Increase efficiency through capture and reuse of rainwater, stormwater, treated wastewater, and greywater where possible
- Protect the North Saskatchewan watershed / Strawberry subwatershed
- Maintain and improve water and wastewater quality in Beaumont
- Improve corporate and community water use efficiency

INDICATORS:

- Litres / person / day, potable water consumption
- Megalitres (ML) consumed, corporate facilities and services
- ML of “unaccounted” water, from infrastructure leakage or unauthorized access
- ML of “unaccounted” wastewater, from inflow and infiltration

TARGETS

- Meet or exceed Alberta Capital Region Wastewater Commission (ACRWC) wastewater quality targets, respecting restricted wastes as per ACRWC Bylaw No. 8.

SUPPORTING INFORMATION:

- In 2020, the operation of 14 municipal facilities required approximately 20,775 cubic metres (m³) of water. This is equivalent to 20,750,000 litres of water, or 2.95 litres of water for each resident of Beaumont (19,236 at 2019 municipal census) per day.
- In 2020, total water usage (community and corporate) equaled 1,381,538 m³. This is equivalent to 196.77 litres of water consumed per resident of Beaumont per day (l/p/d).



3.0

Implementation

3.1 Implementation Framework

This section provides a framework to implement the EMP for the period 2021 to 2026. It includes the four elements of the implementation framework: the animating principles, supporting pillars, key roles, and the approach that translates strategy into action. The pillars represent the three core areas of practice that will make plan implementation a success.

The identified key roles clarify and inform collaboration between the City of Beaumont and external stakeholders who will support plan implementation. Finally, the implementation approach provides specific phasing, reporting, and strategic review requirements. Together, this section forms the basis for the successful implementation of the actions detailed in **Section 3.2**. Each action includes reference to the relevant roles, staffing considerations, stakeholder coordination, data and material resources, and phasing requirements introduced here.

The Environmental Master Plan's supporting pillars are:

- Staffing and resourcing
- Coordination and collaboration
- Measurement and monitoring

3.1.1 Principles

How do we translate the environmental master plan's strategic direction into tangible impact? To achieve environmental progress and build capacity among both City staff and community stakeholders, the EMP must realize four implementation principles: clarity, focus, inclusivity, and priority. Each principle is described below.

Clarity is a clear understanding of the direction of the plan and where we find ourselves progressing towards the vision. It encourages momentum by providing a defined and accessible process. This encourages internal stakeholders to provide support and resources by understanding how environmental progress can support their own work and promotes community participation by making clear how to get involved, and why the environment is important to the quality of life in Beaumont.

Focus emphasizes the quality of results over the quantity of actions. This principle supports implementation by including only the most impactful actions that can build momentum and provide a line-of-sight to future environmental progress. This is witnessed in the reduction of actions from the 2013 *Environmental Master Plan*. The prior plan featured 72 actions, while this successor plan is focused on 14 key actions only. This reduction in actions will allow the City of Beaumont and external stakeholders to focus on the most consequential actions within the first five years to generate success that can be built upon in future iterations of the plan.

Inclusivity refers to both the opportunity and need for collaboration, connection, and partnerships in pursuit of the plan's ambitions. Understanding that the environment touches all of us but is experienced differently subject to age, gender, race, and other demographic influences, several of the Environmental Master Plan actions were developed with extensive community engagement and participation in mind. Echoing the goals of Beaumont's *Social Master Plan*, this approach to implementation will foster collaboration and partnerships, reflect community voices in outcomes, reduce barriers to participation, and provide fertile ground for respectful and inclusive action.

Priority is the logical sequencing of the plan's actions to reflect corporate and community priorities while respecting available resources. By understanding how each action connects with the City's larger planning framework and strategic priorities, momentum generated by the Environmental Master Plan can be leveraged to support other initiatives and services delivered by the City of Beaumont.

3.1.2 Pillars

The supporting pillars of the Environmental Master Plan concern:

- **Staffing and resourcing** of City of Beaumont departments responsible for implementation,¹¹
- **Coordination and collaboration** among City staff and between the City of Beaumont and external stakeholders, and
- **Measurement and monitoring** of environmental performance over time. Each pillar includes a set of high-level directions necessary to realize the strategic ambition of the Environmental Master Plan and implement the actions listed in **Section 3.2**.

Together, these pillars will require coordination with internal City of Beaumont and external (resident, industry, volunteer and environmental non-governmental organizations) stakeholders, the creation and maintenance of an environmental performance monitoring program, and the regular reporting of EMP progress on an annual basis. This can be considered the foundational work necessary to realize each of the EMP's 14 actions.

Wherever applicable, cross-references between the implementation pillars and actions have been identified both in this section and for each relevant action described in **Section 3.2.4**.

11. Note: Departmental names used in this and later sections represent the structure of the City of Beaumont as of August 2021. The City of Beaumont will track changes to departmental organization and modify direction accordingly through the course of plan implementation.



3.1.2.1 Staffing and Resourcing

#	Requirement	Target Quarter	Related Action
1	Designate the Environmental Lead position as responsible for leadership and coordination of Environmental Master Plan implementation, review, and future updates.	Q3 2021	N/A
2	Resource and allocate one (1) additional FTE position to support the Environmental Lead and assume day-to-day implementation of the Environmental Master Plan's supporting actions.	before Q1 2023	N/A

Key Department:

- Infrastructure (coordination and resourcing)

Description:

Staffing and resourcing is the cornerstone of plan implementation; without this pillar, the EMP will merely sit on a shelf. The City of Beaumont's Environmental Lead is responsible for directing implementation, coordinating resources, and reviewing outcomes for the plan. The EMP is only one of the responsibilities held by the Environmental Lead, which include (but are not limited to):

- Strategic- and application-level planning review
- Cross-departmental coordination to promote environmental sustainability within the organization
- Public-facing communication and engagement with external stakeholders
- Collaboration with other levels of government, and
- Ensuring compliance with active environmental legislation.

Given the level of responsibility allocated to the Environmental Lead in addition to EMP implementation, it is recommended that one (1) additional Full-Time Equivalent (FTE) position be resourced and allocated. This support role will assist the Environmental Lead in comprehensively implementing the foundational framework and supporting actions in service of the Environmental Master Plan's focus area goals and long-term vision.

In the event that resourcing in the form of an additional FTE position is not made available to support plan implementation, the Environmental Lead will first prioritize implementation of the core items in **Sections 3.1.2.2 Coordination and Collaboration** and **3.1.2.3 Measurement and Monitoring**, before following the supporting action phasing detailed in **Section 3.2.2**.

3.1.2.2 Coordination and Collaboration

#	Requirement	Target Quarter	Related Action
1	Develop an internal Environmental Advisory Committee (EAC), composed of representative membership drawn from each of the City's departments. To meet on a quarterly basis.	Q4 2021	N/A
2	Support collaboration with Beaumont residents and industry, non-governmental organizations and volunteer groups, and other levels of government through action-driven communication and engagement efforts.	Throughout	N/A

Key Departments:

- Infrastructure (coordination and engagement)
- Communications (external communications)

Description:

The environment is complex and its successful management depends on the City and community of Beaumont working as one. As the basis for collaboration across the City of Beaumont's departments, a new Environmental Advisory Committee (EAC) should be formed to coordinate cross-departmental efforts towards the plan goals, raise issues for resolution, identify gaps and potential new actions, and review progress on a quarterly basis. As a standing committee, the EAC should be chaired by the Environmental Lead (as the chief steward of the EMP) and should comprise representative membership drawn from each of the City of Beaumont's departments.

Participating committee members should possess knowledge- and/or portfolio-based interest in environmental stewardship, and should hold a decision-making role within their respective departments. This will ensure the EAC perspective is represented in intradepartmental discussions around resourcing and prioritization. This cross-departmental approach will encourage nimble internal collaboration on environmental files and will promote a diversity of perspectives on environmental management to ensure that each of the City of Beaumont's strategic goals are served by the Environmental Master Plan implementation.

A draft meeting calendar—articulating the intended quarterly meeting structure of the EAC—is provided in **Appendix D: Draft EAC Calendar**.

While a key actor, the City of Beaumont is but one part of a large and complex system. Environmental stewardship is a shared responsibility, and at the core of this responsibility is an opportunity to collaborate. To achieve the vision and goals of the Environmental Master Plan, external stakeholders (Beaumont residents, industry, non-governmental organizations and volunteer groups, other levels of government) must be meaningfully involved in its implementation.

Wherever possible, the supporting actions listed in **Section 3.2** will identify opportunities to engage with a number of stakeholder groups. While many actions include a communications and engagement component, the supporting actions with prominent participatory elements are found in **FO.3** (Establish Environmental Ambassadors program), **IS.4** (Deliver an engagement campaign to conserve resources and reduce waste), and **PF.1** (Pursue new environmental grant funding and partnership opportunities). Additionally, see **Section 3.1.3** for more information about external collaboration and roles.



3.1.2.3 Measurement and Monitoring

#	Requirement	Target Quarter	Related Action
1	Create open environmental data repository with available municipal data	Q4 2021 to Q4 2022	FO.3
2	Perform gap analysis of data resources and available environmental monitoring tools	Q4 2021 to Q4 2022	FO.3
3	Integrate new environmental performance and geographic information system data	Q4 2021 to Q1 2023	FO.1, FO.2
4	Set performance targets for each focus area indicator, once sufficient data has been collected.	Q4 2023 (general) Q4 2026 (energy)	SP.4 (energy)
5	Incorporate an “environmental lens” to reports made to Beaumont City Council	N/A	N/A
6	Provide a yearly update to Beaumont City Council, beginning in Q1 2023 until Q1 2026 inclusive	Q1 2023 to Q1 2026 inclusive	N/A

Key Departments:

- Infrastructure (coordination and data collection)
- Corporate Analytics & Technology (data collection and digital infrastructure management)
- Legal & Legislative Services [Service Area] (amendment to Council reporting standard, with regard to Direction 5)

12. European Commission Science for Environment Policy, “Indicators for Sustainable Cities,” November 2015, revised March 2018, p. 8.

13. For example, the Alberta Capital Region Wastewater Commission’s Wet Weather Flow Management Strategy (2021) and associated data collection and analysis tasks.

Description:

To understand corporate and community environmental performance across focus areas, a measurement and monitoring program should be established. Using the indicators established in **Section 2.2**, the City will gather data to track progress over time. According to the United Nations Food and Agriculture Organization, indicators—informed by measurement and monitoring—are used to:

“provide information about the functioning of a specific system, for a specific purpose—to support decision-making and management. An indicator quantifies and aggregates data that can be measured and monitored to determine whether change is taking place. But in order to understand the process of change, the indicator needs to help decision-makers understand why change is taking place.”¹²

At present, the City of Beaumont collects data related to ecology, energy, transportation, waste, and water, but this information is not widely distributed or placed in the context of the organization’s environmental performance.

This supporting pillar will lead to the creation of a central data repository—capturing both existing and newly-collected data—to support efficient decision-making in support of the environment. Governance of the measurement and monitoring framework is the responsibility of the EAC.

Once the measurement and monitoring pillar is in place, performance targets will be set for each focus area. This will ensure that the resulting targets are based on a clear understanding of the current state of the environment in Beaumont. It is anticipated that targets for the Air, Community Design, Ecology, Waste, and Water focus areas will be established by the end of Q4 2023. Regional targets set by governing bodies of which the City of Beaumont is a member should also be considered here.¹³ The Energy target—dependent on a broader emissions inventory and forecasting process through action **SP.4**—will follow at the end of Q3 2026.

Supporting actions **FO.1** (Create an environmental monitoring and measurement program) and **FO.2** (Inventory and digitize Beaumont’s environmental assets in GIS) provide further detail on this implementation pillar. Collected data will be used to inform both day-to-day and strategic decision-making across the City of Beaumont in satisfaction of the focus area policy statements, and will form the central plank of both annual reporting and post-implementation review efforts.

In addition, environmental decision-making should be reinforced by introducing a new “environmental lens” to reports made to Beaumont City Council. The policy statements in each focus area can be used to examine the impact of items in reports put before Council.

Should additional indicators be developed as part of future updates to the EMP, they must meet the following criteria to be effective:

- **Meaningful:** Does the metric reveal something important about the progress being made on the EMP? Will it promote understanding of the direction and magnitude of change over time?
- **Measurable:** Is it possible to obtain data on the state of this indicator? Is the level of resourcing required to implement these measures appropriate to the municipality?
- **Understandable:** Is the indicator easily understood by the intended audience, and will it motivate action and encourage reflection and adaptation over time?

3.1.3 Roles

To successfully implement the Environmental Master Plan, the scope of municipal and community effort must be properly understood, with roles clearly defined. While the Environmental Master Plan is first and foremost a made-in-Beaumont solution, we can look to a jurisdiction in Central Alberta for guidance on contending with a complex system such as the environment.

An instructive approach to the roles of a municipal government in complex systems is found in the City of Red Deer’s “Social Policy Framework” (SPF, 2015). The SPF notes that “social well-being and quality of life are the result of complex systems, relationships, and interactions, and are not the sole responsibility of local government.”¹⁴

The same can be said for environmental management, given its reach. While the City of Beaumont plays a vital role in maintaining the health of the environment in Beaumont, the broader community—including residents, businesses, and volunteer-led organizations—each have a role to play in realizing the ambition of the Environmental Master Plan.

Under this model, the City of Beaumont may assume one or more of five different roles (a role is a general function the City can fulfill to help achieve the goals and actions of the Environmental Master Plan). The City may act in one or multiple roles at a given time, and can coordinate roles with other levels of government, industry, or community for increased effect. The potential roles are:

While these roles are presented in the context of the City of Beaumont, the framework may also be used by other organizations within the community as part of their own individual or collaborative efforts to improve environmental health and management activities in Beaumont. The roles articulated here provide clarity—respecting human resources and collaborative opportunities—for each of the EMP actions.

14. City of Red Deer, “Social Policy Framework”, 2015, 11.

Role	Description
Leader / Owner	The City embodies environmental goals through their internal policies and actions
Provider	The City directly delivers programs, services and facilities
Broker	The City acts as a facilitator to bring together organizations and individuals
Supporter	The City assists and builds capacity for other organizations
Storyteller	The City shares stories that build an inclusive narrative



3.1.4 Approach

The City of Beaumont will follow a four-part approach to implementation, uniting the principles, pillars, and prospective roles to support the successful realization of the Environmental Master Plan's vision. The plan's timeline—a long-term vision to 2050, animated by five-year intervals of action, monitoring, and review—will foster continual learning, improvement, and progress while ensuring the plan remains relevant to organizational priorities and unanticipated changes within Beaumont and beyond.

The approach comprises four parts: **Act, Report, Assess, and Adjust.**

- **Act:** Each day is a new opportunity to realize progress towards the long-term 2050 vision. Through existing processes, new planning opportunities, and emerging initiatives, the City of Beaumont will build momentum, proactively learning and adjusting, to realize environmental progress.
- **Report:** The City of Beaumont will deliver yearly progress reports to ensure transparency and to update stakeholders on implementation progress, environmental performance, and corporate and community highlights.
- **Assess:** Through the five-year intervals, care will be taken to assess the state of implementation—the resulting successes, stubborn challenges, available and potential resources, and timelines—to ensure progress towards the vision remains on track.
- **Adjust:** An effective plan is one that can respond to both anticipated and unexpected changes. The EMP will ensure its continued relevance through annual and five-year milestone (plan updates) adjustment mechanisms.

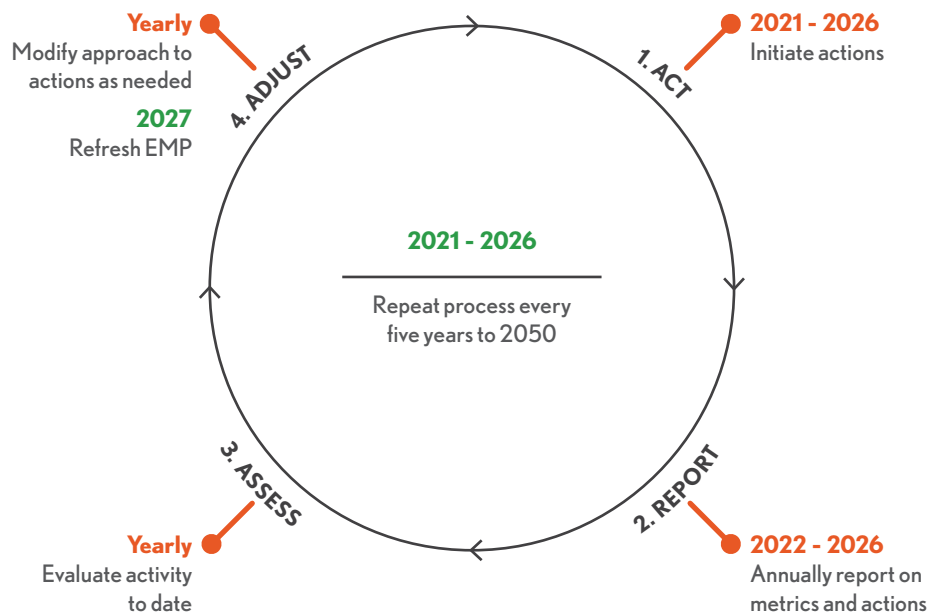
On an annual basis, the City of Beaumont will review and, if necessary, modify the plan's actions and supporting processes to address the lessons learned from ongoing implementation.¹⁵ Interim modifications to the Environmental Master Plan can include new approaches to delivering an existing action, new opportunities for collaboration within the organization and among external stakeholders, and the consideration of newly available or required resources. Modifications to the Environmental Master Plan should emphasize more effective or efficient methods to achieve progress towards each focus area goal with respect to indicator data.

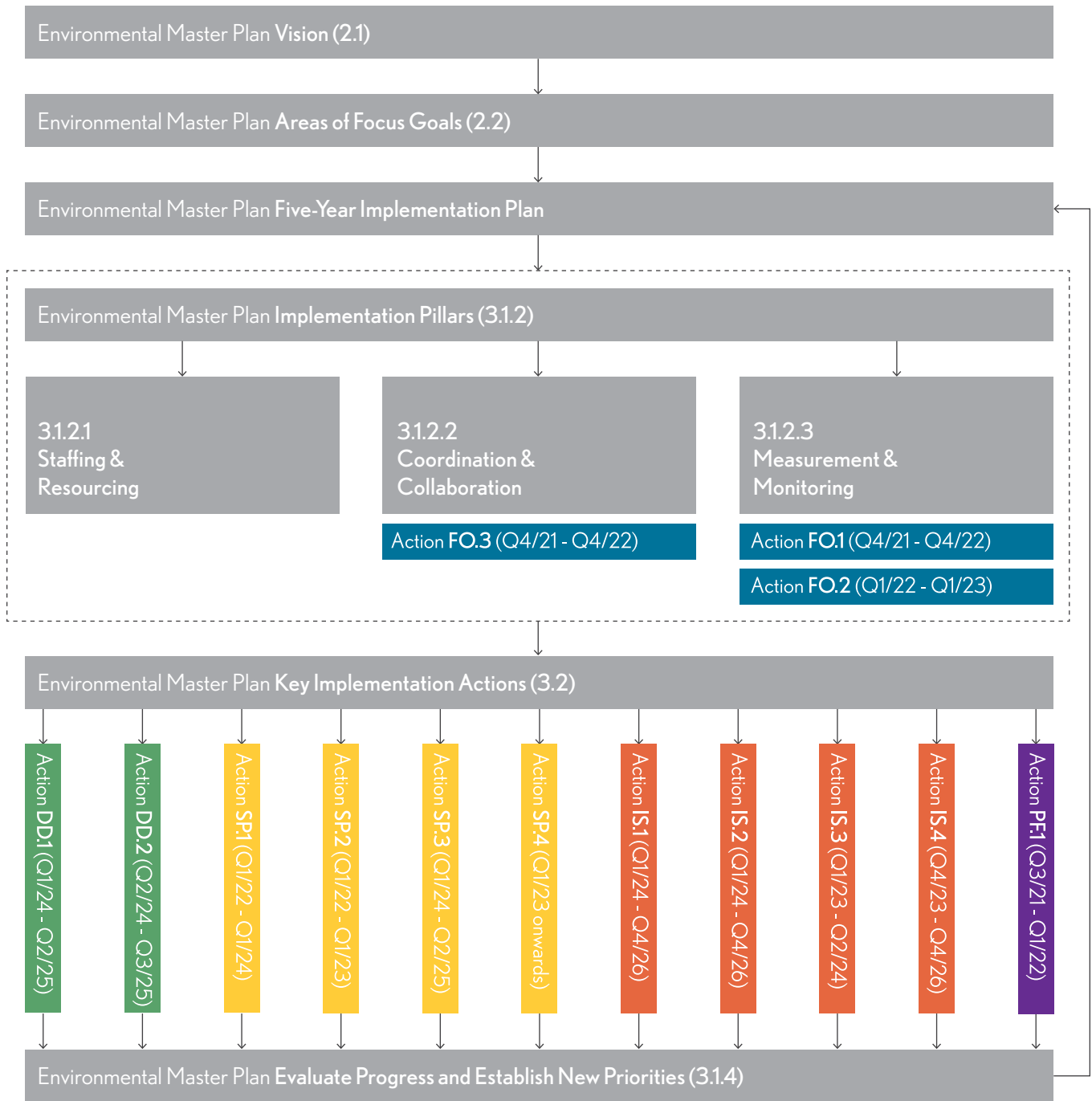
To ensure continued relevance, the Environmental Master Plan should be updated on a five-year basis. This follows the process to update the original 2013 Environmental Master Plan, which is detailed in both that document and the City's most recent (at writing) *Strategic Plan*. This update process will allow reflection on this initial 2021-2026 period of action, with reference to qualitative (lessons learned) and quantitative (trends in collected data) environmental performance review.

15. For more information about this process, refer to **Appendix D: Draft EAC Calendar** - Section A1, Q4(B).

Next page: The Environmental Master Plan's structure, illustrating how the items of the Plan relate to each other.

Below: The City of Beaumont's four-part approach to implementation, uniting the principles, pillars, and prospective roles to support the successful realization of the Environmental Master Plan's vision.





LEGEND

- FO Foundation
- IS Infrastructure & Services
- DD Design & Development
- PF Partnerships & Funding
- SP Strategies & Programs



3.2 Key Implementation Actions

3.2.1 Summary

FO Foundation

This category of action reinforces and cross-references the supporting implementation pillars, established in **Section 3.1.2**, upon which all other actions will be implemented.

1. Create an environmental monitoring and measurement framework
2. Inventory and digitize Beaumont's environmental assets in GIS
3. Establish Environmental Ambassadors program

DD Design & Development

This category of action refers to the key actions that will guide urban design and development processes in Beaumont.

1. Update Beaumont Urban Design Guidelines (BUDG) to include additional sustainable building design guidelines
2. Create low-impact development (LID) engineering standards

SP Strategies & Programs

This category of action supports the delivery of key plans and programs that will result in new streams of environmental action and progress.

1. Develop an Urban Agriculture Plan
2. Create an Urban Forestry Strategy
3. Create a Biodiversity Strategy
4. Complete Partners for Climate Protection (PCP) program requirements

IS Infrastructure & Services

This category of action directs key infrastructure investments, service delivery, and supporting community outreach to conserve resources and improve environmental efficiency within Beaumont.

1. Pilot on-demand local transit
2. Retrofit municipal light infrastructure with energy-efficient lighting
3. Update municipal procurement policy to support environmental sustainability
4. Deliver an engagement campaign to conserve resources and reduce waste

PF Partnerships & Funding

This category of action capitalizes on existing partnerships and seeks out new opportunities for Beaumont to collaborate towards and/or resource new environmental initiatives.

1. Pursue new environmental grant funding and partnership opportunities
 - a. Alberta Capital Airshed (ACA) monitoring partnership
 - b. Extended Producer Responsibility (EPR) advocacy with partners
 - c. Government of Alberta Clean Energy Improvement Program (CEIP)

Detailed descriptions of each of these actions are found in **Section 3.2.4 Action Descriptions**.

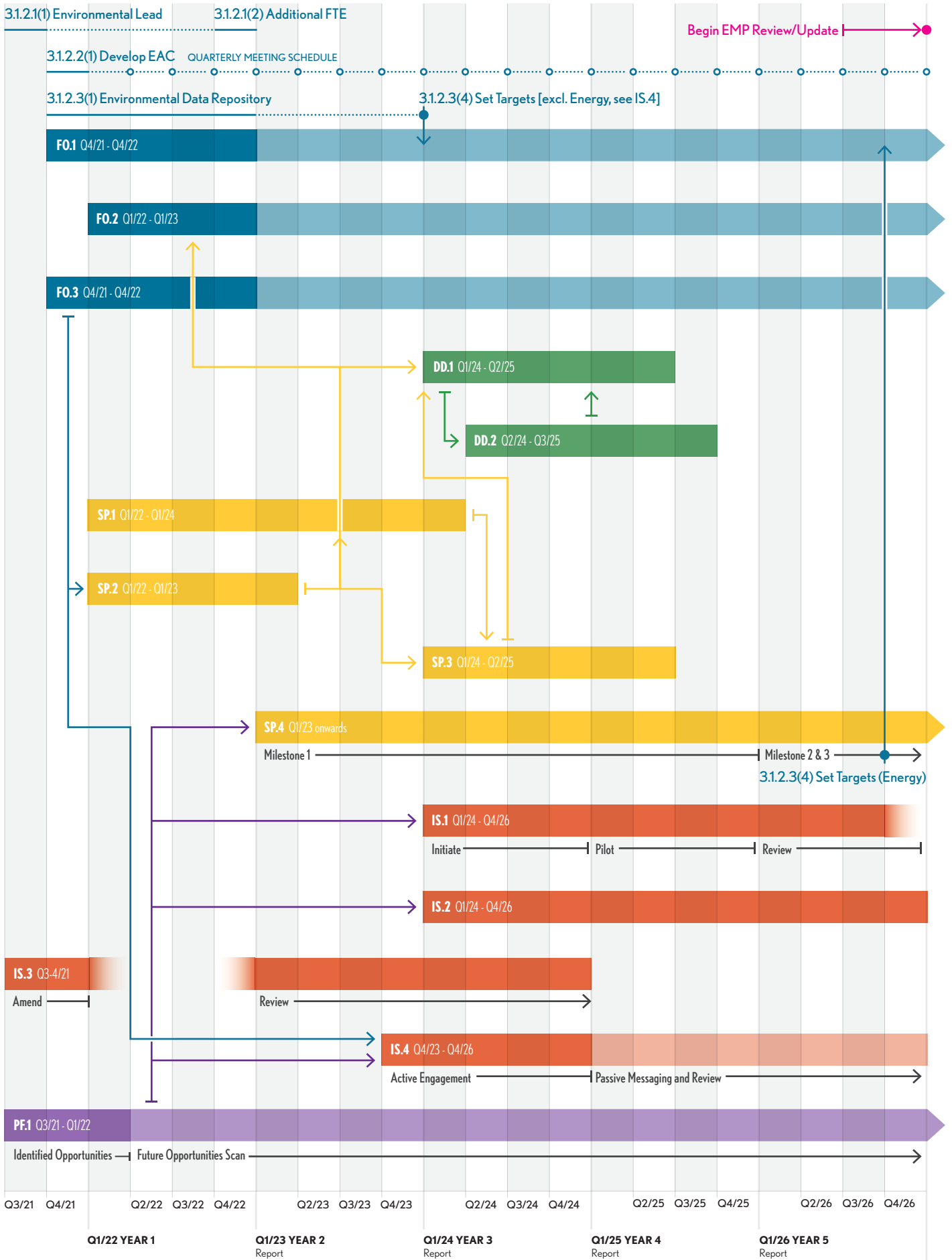
3.2.2 Action Phasing

A phased approach to plan implementation has been created. This reflects discussions with the City of Beaumont administration, an understanding of municipal priorities, and an appreciation for how the results of one supporting action may inform the development of another. Mirroring the strategic direction introduced in **Section 3.1.2 Pillars** and the detailed timelines and key steps included in each of **Section 3.2.4 Action Descriptions**, the phased timeline (adjacent) will guide plan implementation. The anticipated timeline begins in the third quarter of 2021, and concludes at the end of the fourth quarter of 2026, as the next Environmental Master Plan review and update process is initiated.

3.2.3 Action Structure

Each of the actions identified in **Section 3.2.1** includes an extensive set of information to promote clarity, sharpen focus, and encourage prioritization of effort. Each action within this section contains the following information:

- **Action name:** The identified name of the action, as referenced in **Section 3.2.1**
- **Description:** An explanation of the action to be taken
- **Rationale:** The reason for the action's inclusion in the Environmental Master Plan
- **Municipal role:** The type of role the municipality would play in delivering the action, per **Section 3.1.3**
- **Lead and contributing departments:** The department responsible for delivering the action, and those who would serve in a support role
- **Level of resourcing:** The expected range of resourcing needed to deliver this action
- **Potential partners:** Key stakeholders in the community who can help realize the action
- **Anticipated timeframe:** The timeframe in which implementation of the action is expected
- **Key steps:** The essential steps necessary to realize the action, with anticipated timing
- **Links to other actions:** The connections to other actions within the EMP, where available
- **Alignment:** Identification of the focus area(s) to which the action contributes (sidebar icons).



FO.1 Create an environmental monitoring and measurement framework

Description:

The environmental monitoring and measurement framework will establish the basis for environmentally focused decision-making by ensuring the indicator data associated with each of the six focus areas are measured, monitored, and collected over time. At present, the City of Beaumont collects a variety of environmental data but gaps exist (with respect to indicators in **Section 2.2**) and availability is intermittent. The measurement and monitoring framework will resolve these gaps by establishing new measurement programs and will ensure the resulting data is made available to both City staff and the larger community through an open data-sharing agreement.

Intended outcome: Measurement and monitoring framework established, allowing for more efficient integration of environmental data into municipal decision-making processes and the establishment of performance targets suitable to Beaumont’s environmental context.

Rationale:

Ongoing monitoring and measurement of environmental health and performance is a major pillar of proactive and responsible environmental management. This will allow the City of Beaumont to make decisions and act with full appreciation of the environmental impact of its actions, and an understanding of how day-to-day operations can support progress to the long-term vision and goals.

Municipal role(s):

- **Leader/Owner:** The City embodies the environmental goals through their internal policies and actions

Lead City department:

- Infrastructure (Environmental Lead)

Contributing City departments:

- Recreation
- Economic Development
- Finance
- Corporate Analytics & Technology

Level of resourcing:

- Multiple staff members, part-time effort
- Potential for external consultant support

Potential partners:

- Non-government and volunteer organizations (Beaumont & District Agricultural Society, Wild Beaumont), for feedback and potential citizen science opportunities
- Government of Alberta (Alberta Environment & Parks), for data sharing and regulatory compliance
- Regional partners (Alberta Capital Airshed, Edmonton Metropolitan Region Board), to ensure alignment and share best practices
- Utility service providers (Alberta Capital Region Wastewater Commission, Capital Region Southwest Water Services Commission, Leduc & District Waste Management Facility), for data sharing



Anticipated timeframe:

- Q4 2021 to Q4 2022 inclusive (five quarters), with ongoing maintenance

Key steps:

- **2021:** Identify municipal data availability and gaps
- **2022:** Create open environmental data repository with available data
- **2023 onwards:** Commission further data collection and integrate into data repository to fill identified gaps

Links to other actions:

- **Pillar:** This action will be performed to satisfy requirement (1) included in **Section 3.1.2.3 Measurement and Monitoring**.
- **Action FO.2:** Inventory and digitize Beaumont’s environmental assets in GIS



FO.2 Inventory and digitize Beaumont's environmental assets in GIS

Description:

To facilitate efficient environmental decision-making, Beaumont's aquatic, riparian, and terrestrial natural assets should be inventoried and digitized within the City's geographic information system. This inventory should include (but not be limited to): City-owned trees (number, canopy coverage) and plants, wetlands and ponds, streams and riparian areas, green spaces and naturalized areas, agricultural areas, and contaminated sites.

Intended outcome: Beaumont's natural assets (and liabilities) have been surveyed, inventoried, and digitized within the municipal geographic information system, as part of the environmental monitoring and measurement framework.

Rationale:

This action will support the implementation of others and will facilitate environmental decision-making pertaining to planning and development, recreation and culture, and parks management. It will also support the tracking of **Section 2.2.3 Ecology** indicators over time, with the first year of collection as a baseline.

Municipal role(s):

- **Leader/Owner:** The City embodies the environmental goals through their internal policies and actions

Lead City department:

- Infrastructure (Environmental Lead)

Contributing City departments:

- Corporate Analytics & Technology
- Planning & Development

Level of resourcing:

- One (1) staff member, part-time effort
- Potential for external consultant support



Potential partners:

- Non-government and volunteer organizations (Municipal Natural Assets Initiative, environmentally focused), for potential citizen science opportunities and advisory support
- Industry / Development, for guidance on service delivery improvements
- Local educational institutions (students and teachers), for potential citizen science opportunities
- Regional partners (Edmonton Metropolitan Region Board, Edmonton Region Waste Advisory Committee, other municipalities), to ensure alignment and share best practices

Anticipated timeframe:

- Q1 2022 to Q1 2023 inclusive (five quarters), with ongoing maintenance

Key steps:

- **2021:** Measurement and monitoring framework established as part of **Action FO.1**
- **2022 to 2023:** Data collection and implementation
- **2023 onwards:** Dataset maintenance, review, and expansion

Links to other actions:

- **Pillar:** This action will be performed to satisfy requirement (3) included in **Section 3.1.2.3 Measurement and Monitoring**
- **Action FO.1:** Create an environmental monitoring and measurement framework
- **Action SP.1:** Develop an Urban Agriculture Plan
- **Action SP.2:** Create an Urban Forestry Strategy
- **Action SP.3:** Create a Biodiversity Strategy



Description:

This action will see the delivery of an ongoing education and outreach program focused on cultivating environmental ambassadors within the community. The program will foster a culture of positive environmental habits (ecological conservation, energy and water efficiency, and waste diversion), create new and mobilize existing partnerships within the community to support EMP implementation, and promote participation in future environmental planning processes and individual initiatives.

The first year of implementation should focus on identifying community champions, piloting key messages that resonate within Beaumont, and promoting the day-to-day environmental actions that can support long-term change. These include active transportation, resource efficiency, and increasing support for organics composting.

With regard to the City’s “Strategic Pillar for Change” (*Municipal Strategic Plan*) focused on Welcoming Diversity and Celebrating our Cultural Heritage, care should be taken to reflect the diversity of perspectives, experiences, and demography that exist in Beaumont in the roster of participating ambassadors. Once these foundational program elements are in place and relationships have been built, the program may be drawn on to support ongoing implementation of other EMP actions.

Intended outcome: A diverse Environmental Ambassador program that can be called on to support public-facing actions in this EMP and other environmental initiatives in the community, and which provides education and outreach tailored to the Beaumont context.

Rationale:

Relatively low public participation in the development of both the 2013 and 2021 Environmental Master Plans suggests that community capacity and interest must be built over time and not merely assumed at key intervals. The development of a volunteer-driven Environmental Ambassador program will tap into what interest exists in the community, create new capacity and networks for action, and build momentum towards environmental action over time.

Municipal role(s):

- **Broker:** The City acts as a facilitator and connector to bring together organizations and individuals
- **Supporter:** The City assists and builds capacity for other organizations
- **Storyteller:** The City shares stories that build an inclusive narrative

Lead City department:

- Infrastructure (Environmental Lead)



Contributing City departments:

- Communications
- Recreation
- Community & Social Development
- Economic Development



Level of resourcing:

- Multiple staff members, part-time effort



Potential partners:

- Assisted living facilities, for perspective and participation
- Indigenous governance (Confederacy of Treaty Six First Nations, Métis Nation Region 4), for perspective and participation
- Local educational institutions (students and teachers), for perspective and participation
- Non-governmental and volunteer organizations (Beaumont & District Agricultural Society, Beaumont Chamber of Commerce, Beaumont & District Heritage Society, local homeowners associations, Wild Beaumont), for perspective, participation, and sharing of best practices



Anticipated timeframe:

- Q4 2021 to Q4 2022 inclusive (five quarters), with ongoing engagement

Key steps:

- **2021 to 2022:** Identification of community champions, development of communications and engagement approach, and rollout of day-to-day environmental messages
- **2023 and onwards:** Networking and program growth, deployment on particular projects / EMP supporting actions as needed, yearly review of program outcomes

Links to other actions:

- **Pillar:** This action will be performed to satisfy requirement (2) included in **Section 3.1.2.2 Coordination and Collaboration**
- **Action SP.1:** Develop an Urban Agriculture Plan
- **Action SP.3:** Create a Biodiversity Strategy
- **Action IS.1:** Pilot on-demand local transit
- **Action IS.2:** Retrofit municipal light infrastructure with energy-efficient lighting
- **Action IS.4:** Deliver an engagement campaign to conserve resources and reduce waste

Description:

Incorporate sustainable building and development design guidelines into the existing *Beaumont Urban Design Guidelines* (last revised 2020) with the goal of improving the environmental, health, and socioeconomic performance of the built environment. Tangibly, this update will encourage sustainable site design and building placement, energy-efficient buildings, universal design and accessibility, naturalization and ecological enhancement, as well as sustainable materials use.

Intended outcome: The BUDG is updated with additional focus on sustainable building and landscape considerations. This can include but will not be limited to: site design and orientation, transportation, natural environment, water conservation and quality, energy and emissions, waste and building materials, and monitoring and maintenance. The BUDG will serve as a roadmap for citizens, industry, and the City of Beaumont to undertake sustainability-focused development projects.

Rationale:

Updating the BUDG to include a focus on sustainable design will promote a triple-bottom line approach to urban design on a parcel-by-parcel basis. Guidance through the BUDG will reduce the impact of urban development on the environment, including the reduction of non-renewable resource use, the minimization of construction waste, and the improvement of the health and wellbeing of residents.

Municipal role(s):

- **Leader/Owner:** The City embodies the environmental goals through their internal policies and actions
- **Broker:** The City acts as a facilitator and connector to bring together organizations and individuals

Lead City department:

- Planning & Development

Contributing City departments:

- Recreation
- Economic Development
- Community & Social Development
- Finance
- Infrastructure
- Protective Services

Level of resourcing:

- Multiple staff members, part-time effort
- Potential for external consultant support

Potential partners:

- Industry, Development (Canadian Home Builders Association – Edmonton Region, Urban Development Institute, commercial and sustainability-focused development companies), for review and feedback
- Non-governmental organizations (Beaumont & District Agricultural Society, Wild Beaumont), for review and feedback
- Regional partners (Edmonton Metropolitan Region Board, other municipalities), to ensure alignment and share best practices
- Residents, for review and feedback

Anticipated timeframe:

- Q1 2024 to Q2 2025 inclusive (six quarters)

Key steps:

- **Q1 to Q2 2024:** Create project terms of reference and determine if external support is required; engage in Request for Proposal process if needed
- **Q3 2024:** Identify sustainable building best practices and perform key stakeholder engagement
- **Q4 2024 to Q2 2025:** Draft and circulate updated BUDG document, implement feedback and finalize

Links to other actions:

- **Action DD.2:** Create low-impact development (LID) engineering standards
- **Action SP.2:** Create an Urban Forest Strategy
- **Action SP.3:** Create a Biodiversity Strategy



Description:

Low-impact development (LID) refers to the practices, standards, and systems that create conditions on developed lands to emulate natural processes that support stormwater infiltration, evapotranspiration, or re-use. LID views stormwater as a resource to support the protection of water quality, minimize erosion, and reduce effluent runoff into aquatic and riparian habitats.

LID best management practices (BMPs) should be reviewed for their relevance to Beaumont's landscape and current and projected future climatic conditions as part of the creation of engineering standards. These BMPs include (but are not limited to): rain gardens, green roofs, permeable pavements, bioswales, absorbent landscapes, and the selective use of impermeable materials in landscape design.

Intended outcome: A set of low-impact development engineering standards which will guide future urban development to minimize stormwater impact on Beaumont's environment.

Rationale:

A low-impact approach to urban development ensures stormwater is managed using design approaches and systems that reduce impact to built areas and encourage the natural flow of water within local ecosystems and regional watersheds. Over time, the implementation of low-impact development at scale can help restore the disrupted hydrologic and ecological function of a watershed.

Municipal role(s):

- **Leader/Owner:** The City embodies the environmental goals through their internal policies and actions
- **Provider:** The City directly delivers programs, services and facilities
- **Broker:** The City acts as a facilitator and connector to bring together organizations and individuals
- **Supporter:** The City assists and builds capacity for other organizations
- **Storyteller:** The City shares stories that build an inclusive narrative

Lead City department:

- Infrastructure (Environmental Lead)

Contributing City departments:

- Infrastructure (Engineering, Infrastructure, Operations)
- Planning & Development

Level of resourcing:

- Multiple staff members, part-time effort (Environmental Lead; additional in-house or consulting engineering capacity required)
- New staff member(s) required

Potential partners:

- Industry / Development (Canadian Home Builders Association – Edmonton Region, Urban Development Institute, sustainability-focused development groups), for review and feedback
- Private engineering firms, for advising, review, and feedback
- Government of Alberta (regulatory authorities for water, transportation), to ensure regulatory compliance
- Non-government and volunteer organizations (Beaumont & District Agricultural Society, Municipal Natural Assets Initiative, Wild Beaumont, environmentally focused groups), for review and feedback
- Regional partners (Edmonton Metropolitan Region Board, other municipalities), to ensure alignment and share best practices

Anticipated timeframe:

- Q2 2024 to Q3 2025 inclusive (six quarters)

Key steps:

- **Q2 2024:** Create project terms of reference and determine if external support is required; engage in Request for Proposal process if so
- **Q3 2024 to Q1 2025:** Identify LID best practices and perform key stakeholder engagement
- **Q1 2025 to Q3 2025:** Draft and circulate LID engineering standards document, implement feedback and finalize

Links to other actions:

- **Action DD.1:** Update Beaumont Urban Design Guidelines (BUDG) to include additional sustainable building design guidelines
- **Action SP.2:** Create an Urban Forestry Strategy
- **Action SP.3:** Create a Biodiversity Strategy



Description:

The City of Beaumont will develop an Urban Agriculture Plan to encourage the growth of quality local food, increase local food security, promote the productive use of neighbourhood green space, support natural ecological systems, and mitigate the impacts of climate change.

The Urban Agriculture Plan will be an opportunity to explore and foster community interest in different forms of urban-based agricultural activity, resolve gaps in existing municipal policy, and establish goals, objectives, and actions for urban agriculture practices in Beaumont. The Urban Agriculture Plan may focus on, but is not limited to:

- Community and home-based gardens
- Urban farming
- Public agriculture and edible landscaping
- Pollinator pathway development
- Education and awareness campaigns

Intended outcome: A comprehensive Urban Agriculture Plan that recommends policies, events, and/or infrastructure to support the growth of urban agriculture in Beaumont.

Rationale:

Through the *Municipal Development Plan*, the City has made a commitment to support urban agriculture efforts that celebrate the area’s agricultural heritage, provide access to fresh local food, and contribute to the regional food system.

In addition, agriculture is a key component of the *Edmonton Metropolitan Growth Plan*. The EMRB’s *Regional Agricultural Master Plan (RAMP)* identifies urban agriculture as one of the Plan’s four policy areas.

The Urban Agriculture Plan satisfies the direction established in the RAMP to support regional urban agriculture initiatives, supports the vision of Beaumont as outlined in *Our Complete Community*, and provides a framework for the growth of urban agriculture in the City.

Municipal role(s):

- **Leader/Owner:** The City develops the strategy and implements and leads the required programs
- **Provider:** The City directly delivers programs, services and facilities
- **Supporter:** The City assists and builds capacity for other organizations

Lead City department:

- Planning & Development



Contributing City departments:

- Communications & Marketing
- Recreation
- Economic Development
- Community & Social Development
- Protective Services
- Infrastructure



Level of resourcing:

- Multiple staff members, part-time effort

Potential partners:

- Indigenous governance (Confederacy of Treaty Six First Nations, Métis Nation Region 4), for program input, perspective and participation
- Industry, for sponsorship and participation opportunities
- Local educational institutions (students and teachers), for program input and participation
- Non-governmental organizations (Beaumont & District Agricultural Society, Wild Beaumont), for program input, perspective and participation
- Regional partners (Edmonton Metropolitan Region Board, other municipalities), to share practices and align planning processes

Anticipated timeframe:

- Q1 2022 to Q1 2024 inclusive (nine quarters)

Key steps:

- **Q1 2022:** Create project terms of reference, goals, and objectives, determine if external support is required; engage in Request for Proposal process if so
- **Q2 to Q3 2022:** Identify urban agriculture best practices and review gaps in municipal policy, conduct communications campaign to build community awareness
- **Q4 2022 to Q2 2023:** Perform key stakeholder engagement
- **Q1 to Q3 2023:** Draft and circulate Urban Agriculture Plan
- **Q3 2023 to Q1 2024:** Finalize Urban Agriculture Plan for forthcoming implementation

Links to other actions:

- **Action FO.2:** Inventory and digitize Beaumont’s environmental assets in GIS
- **Action FO.3:** Establish Environmental Ambassadors Program
- **Action SP.2:** Create an Urban Forestry Strategy
- **Action SP.3:** Create a Biodiversity Strategy



Description:

An Urban Forestry Strategy will provide a long-term vision and support key indicators in the EMP towards increasing the urban tree canopy and available habitats. It will provide the basis for inventory and analysis of existing assets, outline the measures available to their protection and maintenance, and establish planting requirements and a guiding strategy to encourage new growth.

Intended outcome: The existing work performed by the City of Beaumont’s Infrastructure department (planting, removal, maintenance, pest management) will be built upon to continually improve the City’s urban forest resources and tree canopy.

Rationale:

The urban forest contributes a number of ecological services to support environmental health in Beaumont. These include capture of carbon dioxide, reduction of air pollution, minimization of stormwater runoff, the provision of new habitat for local wildlife, and the reduction of the urban “heat island” effect. The urban forest also provides important economic and social benefits, including contributing to property values, reducing energy use related to cooling, and encouraging recreation and leisure activities by providing shade and windbreaks.

Municipal role(s):

- **Leader/Owner:** The City embodies the environmental goals through their internal policies and actions
- **Provider:** The City directly delivers programs, services and facilities

Lead City department:

- Infrastructure (Environmental Lead)

Contributing City departments:

- Infrastructure (Operations)
- Recreation
- Planning & Development

Level of resourcing:

- Multiple staff members, part-time effort

Potential partners:

- Industry / Development (Urban Development Institute), for review and feedback
- Non-governmental organizations (Beaumont & District Agricultural Society, Wild Beaumont, other environmentally focused groups), for review and feedback
- Regional partners (Edmonton Metropolitan Region Board, other municipalities), to share practices
- Residents, for review and feedback

Anticipated timeframe:

- Q1 2022 to Q1 2023 inclusive (five quarters)

Key steps:

- **Q1 2022:** Create project terms of reference, set goals and objectives, and review feedback from prior Biodiversity Strategy and Urban Agriculture Pilot Program stakeholder engagement processes
- **Q2 2022:** Survey existing urban forest management practices, identify gaps, engage stakeholders and share practices with regional partners
- **Q3 2022 to Q1 2023:** Draft and circulate Urban Forest Strategy, implement feedback and finalize

Links to other actions:

- **Action FO.2:** Inventory and digitize Beaumont’s environmental assets in GIS
- **Action DD.2:** Create low-impact development (LID) engineering standards
- **Action SP.1:** Develop an Urban Agriculture Plan
- **Action SP.3:** Create a Biodiversity Strategy



Description:

A Biodiversity Strategy will establish protocols to retain, restore, and manage vital terrestrial, riparian, and aquatic features in Beaumont to improve local environmental health. The Strategy will also support ongoing City efforts to naturalize public open spaces by exploring and integrating best practices in urban biodiversity conservation planning, operations, and community consultation.

A Biodiversity Strategy for Beaumont should include:

- Firm goals and objectives for biodiversity conservation
- Exploration of the current state of biodiversity in Beaumont
- Communications, education, and engagement with the public and key stakeholders for how local biodiversity can be supported on both public and private lands
- Key engagement with Indigenous communities to learn about natural heritage and traditional approaches to land stewardship
- Citizen science program development to incorporate existing volunteer efforts and encourage new community interest in land stewardship
- Review of internal City open space acquisition and management practices related to urban biodiversity conservation and naturalization. This review should also consider how the City of Beaumont may work with inter-municipal partners in the City of Edmonton and Leduc County to conserve environmentally sensitive areas that cross municipal boundaries.

Intended outcome: A Biodiversity Strategy that increases local biodiversity, improves habitat continuity, explores the naturalization potential of open spaces and watercourses, and generates community interest in land stewardship within Beaumont.

Rationale:

A comprehensive Biodiversity Strategy will support the enhancement of the environment in Beaumont through the restoration of natural spaces and habitats, the maintenance and potential increase of species diversity, the naturalization of open spaces and stormwater management facilities (see **Action DD.2**), and the protection of local wildlife.

A Biodiversity Strategy aligns with guidance offered by the *Municipal Development Plan* to ensure Indigenous traditional knowledge is reflected in the City's approach to land stewardship, and by the *Recreation, Parks, and Facilities Master Plan* to ensure the City's open spaces are designed with the protection of environmentally sensitive areas firmly in mind.

Municipal role(s):

- **Broker:** The City acts as a facilitator and connector to bring together organizations and individuals
- **Supporter:** The City assists and builds capacity for other organizations
- **Storyteller:** The City shares stories that build an inclusive narrative

Lead City department:

- Planning & Development

Contributing City departments:

- Communications
- Infrastructure (Operations, Infrastructure)
- Recreation

Level of resourcing:

- Multiple staff members, part-time effort
- Potential for external consultant support

Potential partners:

- Indigenous governance (Confederacy of Treaty Six First Nations, Métis Nation Region 4), for program input, perspective and participation
- Industry / Development, for review and feedback
- Local educational institutions (students and teachers), for participation and feedback
- Non-governmental organizations (Alberta Conservation Association, Beaumont & District Agricultural Society, Riverwatch Institute of Alberta, Wild Beaumont, other environmentally focused groups), for participation, review and feedback
- Residents, for participation and feedback

Anticipated timeframe:

- Q1 2024 to Q2 2025 inclusive (six quarters)

Key steps:

- **Q1 2024:** Create project terms of reference, goals, and objectives, determine if external support is required; engage in Request for Proposal process if so
- **Q2 to Q3 2024:** Identify urban biodiversity conservation best practices, review policy gaps and perform key stakeholder engagement
- **Q3 2024 to Q1 2025:** Draft and circulate Biodiversity Strategy
- **Q2 2025:** Finalize Biodiversity Strategy for implementation

Links to other actions:

- **Action FO.2:** Inventory and digitize Beaumont's environmental assets in GIS
- **Action FO.3:** Establish Environmental Ambassadors Program
- **Action DD.2:** Create low-impact development (LID) engineering standards
- **Action SP.1:** Develop an Urban Agriculture Plan
- **Action SP.2:** Create an Urban Forestry Strategy



Description:

In 2015, the City of Beaumont engaged in the Partners for Climate Protection program managed by the Federation of Canadian Municipalities (FCM) and the Canadian chapter of ICLEI – Local Governments for Sustainability through a joining resolution.

The program provides support—through tools, case studies, and advisors—for municipalities to develop a GHG emissions reduction program. In addition, the program’s cross-country network of over 450 municipalities provides learning and collaboration opportunities within Alberta and beyond. A participating municipality will progress through five milestone steps across a 10-year period to reduce GHG emissions generated by both municipal and community action.

These steps are:

- Create a baseline emissions inventory and forecast
- Set emissions reductions targets
- Develop a local action plan
- Implement the local action plan
- Monitor progress and report results

In the years since joining the program, Beaumont’s activity towards its goals has ceased. The EMP presents a clear opportunity to re-engage with the terms of the program and support air and energy focus area goals.

Intended outcome: The City of Beaumont has progressed through each of five milestone steps associated with the program to create a baseline inventory and forecast of emissions, set reduction targets, develop and implement a local action plan, and monitor and report on progress over time.

Rationale:

The FCM / ICLEI Partners for Climate Protection program provides an existing framework, knowledge base, and network to re-engage to reduce GHG emissions and improve air quality. The program’s ambitions include the potential to save on corporate and community energy costs, improve local health, and increase investment in the local economy.

Municipal role(s):

- **Leader/Owner:** The City embodies the environmental goals through their internal policies and actions

Lead City department:

- Infrastructure (Environmental Lead)

Contributing City departments:

- Communications
- Finance
- Legal & Legislative Services
- Infrastructure (Operations, Infrastructure)

Level of resourcing:

- Multiple staff members, part-time effort
- Potential for external consultant support

Potential partners:

- Non-governmental organizations (Federation of Canadian Municipalities, Municipal Climate Change Action Centre)
- Regional partners (Edmonton Metropolitan Region Board, other municipalities)
- Participating municipalities

Anticipated timeframe:

- Q1 2023 to future EMP interval 2031-2036

Key steps:

- **Q12023:** Milestone 1: Create a Baseline Emissions Inventory and Forecast
- **Q12026, anticipated:** Milestone 2: Set Emissions Reduction Targets (by end Q4 2026) and Milestone 3: Develop a Local Action Plan (continue beyond five-year interval to 2031)
- **2031 onwards:** Milestone 4: Implement the Local Action Plan and Milestone 5: Monitor Progress and Report Results

Links to other actions:

- **Action IS.2:** Retrofit municipal light infrastructure with energy-efficient lighting
- **Action IS.3:** Update municipal procurement policy to support environmental sustainability
- **Action PF.1:** Pursue new environmental grant funding and partnership opportunities



Description:

Building on existing Beaumont Transit infrastructure and experience, the City of Beaumont will develop and pilot an on-demand transit service to encourage more sustainable travel habits within the city and to connect with the regional transit system.

Intended outcome: On-demand transit is an available, viable, and integrated transportation option for Beaumontians to conduct local trips.

Rationale:

Guided by the accessibility considerations included in the Transportation Master Plan, the delivery of an on-demand transit pilot project for Beaumont will provide new mobility options for residents to make trips within the city, reduce GHG emissions, and bridge the distance between Beaumont’s neighbourhoods and the regional transit service at the Ken Nichol Regional Recreation Centre.

Municipal role(s):

- **Leader/Owner:** The City embodies the environmental goals through their internal policies and actions
- **Provider:** The City directly delivers programs, services and facilities

Lead City department:

- Infrastructure (Operations)

Contributing City departments:

- Communications
- Economic Development
- Community & Social Development
- Finance
- Planning & Development

Level of resourcing:

- Multiple staff members, part-time effort



Potential partners:

- Other levels of government, for funding support
- Regional partners (Edmonton Metropolitan Region Board, other municipalities), to support alignment and share practices



Anticipated timeframe:

- Q1 2024 to Q4 2026 inclusive (12 quarters)
 - » 2024: Initiate pilot process
 - » 2025: Implement pilot process
 - » 2026: Ongoing delivery, review results of pilot process to date



Key steps:

- **2024:** Initiate pilot; set goals and objectives of pilot, conduct public engagement and communications campaign to gauge interest and generate awareness, allocate staff and source infrastructure
- **2025:** Implement on-demand transit pilot project to end 2026
- **2026:** Review first year progress, evaluate, and modify program, evaluate feasibility and continued operation at conclusion of 2026

Links to other actions:

- **Action FO.3:** Establish Environmental Ambassadors Program



IS.2 Retrofit municipal light infrastructure with energy-efficient lighting

Description:

Through life-cycle replacements, the City of Beaumont will look for new opportunities and will continue to work with local utility service providers to replace low-efficiency light solutions in municipal infrastructure and facilities (i.e. high pressure sodium [HPS] street lights) with light emitting diode (LED) equivalents.

Through the Municipal Climate Change Action Centre, the City of Beaumont conducted a retrofit of the City Hall, Fire Hall, and RCMP Detachment in 2014. One element of the retrofit was the installation of high-efficiency facility lighting. In 2017, streetlight operator Fortis Alberta transitioned from HPS to LED lighting and began offering a LED Conversion Program to municipalities with light fixtures approaching the end of their life-cycle.

Should measurable progress be made towards municipal light infrastructure retrofits within the 2021-2026 period, the City of Beaumont will explore further sustainability-focused retrofits within public buildings and infrastructure.

Intended outcome: Street and municipal facility lighting is uniformly updated with high-efficiency light solutions.

Rationale:

Inefficient light solutions account for a sizable amount of municipal energy consumption, and therefore, expenditure. The emergence of more efficient lighting solutions presents an opportunity to decrease energy consumption, reduce outdoor light pollution, enhance visibility and increase safety, and reaffirms the City's commitment to the environment by making a visible intervention.

Municipal role(s):

- **Leader/Owner:** The City embodies the environmental goals through their internal policies and actions
- **Provider:** The City directly delivers programs, services and facilities
- **Broker:** The City acts as a facilitator and connector to bring together organizations and individuals

Lead City department:

- Infrastructure (Environmental Lead)

Contributing City departments:

- Communications
- Community & Social Development
- Infrastructure (Operations)
- Planning & Development

Level of resourcing:

- Multiple staff members, part-time effort

Potential partners:

- Other levels of government, for funding support
- Utility service providers (Fortis Alberta), for implementation

Anticipated timeframe:

- Q1 2024 to Q4 2026 inclusive (12 quarters)

Key steps:

- **2024:** Set goals and objectives, inventory gaps in energy-efficient municipal infrastructure, seek funding, and build partnerships
- **2024-25:** Develop implementation program, informed by preliminary information drawn from Supporting Action 9
- **2025 onwards:** Implement retrofit program

Links to other actions:

- **Action FO.3:** Establish Environmental Ambassadors Program
- **Action SP.4:** Complete Partners for Climate Protection program requirements



IS.3 Update municipal procurement policy to support environmental sustainability

Description:

The City of Beaumont will update its procurement policy to promote environmentally sustainable decision-making when buying goods and services to support both long-term initiatives and day-to-day operations.

Intended outcome: The City of Beaumont has an environmentally sustainable procurement policy, and makes decisions to reduce its environmental footprint through procurement every day.

Rationale:

Integrating the City's environmental goals into its procurement policy ensures that the vendors, services, and products sourced by the City as part of its operation and management provide an opportunity to achieve environmental progress.

As one of the largest purchasers of goods and services in Beaumont, the City of Beaumont is well-positioned to demonstrate leadership and encourage positive environmental impact by integrating its environmental goals into its procurement policy. This will assist the City to reduce its environmental footprint by selecting vendors, services, and products that promote resource efficiency, responsible waste management, and sustainable operations.

Municipal role(s):

- **Leader/Owner:** The City embodies the environmental goals through their internal policies and actions
- **Broker:** The City acts as a facilitator and connector to bring together organizations and individuals
- **Supporter:** The City assists and builds capacity for other organizations
- **Storyteller:** The City shares stories that build an inclusive narrative

Lead City department:

- Finance

Contributing City departments:

- All (each department conducts their own procurement)

Level of resourcing:

- Multiple staff members, part-time effort

Potential partners:

- Industry (environmentally focused vendors), to provide feedback
- Non-governmental organizations (Canadian Stewardship Services Alliance, environmentally focused), to provide feedback
- Regional partners (Edmonton Metropolitan Region Board, other municipalities), to ensure alignment and share practices

Anticipated timeframe:

- Q3 to Q4 2021 inclusive (two quarters): amendment
- Q1 2023 onwards: review of progress and modification as needed

Key steps:

- **Q3 to Q4 2021:** Research and analysis of best practices in environmental procurement, draft policy
- **Q4 2021:** Adopt (through Beaumont City Council) policy, including proposed review schedule
- **2022 onwards:** Review implementation of procurement policy

Links to other actions:

- **Action SP.4:** Complete Partners for Climate Protection program requirements



Description:

The City of Beaumont will conduct a community-based social marketing campaign (CBSM) to promote the conservation of energy and water resources and the reduction of waste generated in the Beaumont community. This action may be a potential precursor to a broader Conservation and Reuse Strategy in future iterations of the Environmental Master Plan (Interval 2, 2027 to 2031).

Intended outcome: The CBSM campaign results in behaviour change towards reduced resource (energy, water) consumption and increased waste reduction, whether through diversion or by minimizing waste generation in the first place.

Rationale:

The 2013 EMP and *Municipal Development Plan* list waste diversion and energy and water conservation as potential strategy development areas. Given the level of strategy-focused actions elsewhere in this Environmental Master Plan, a community-based social marketing approach will first look to prompt behaviour change towards more sustainable resource use and waste reduction.

CBSM is used by practitioners across disciplines to prompt behaviour change among target audiences—typically those defined in the “soft middle”—towards desired attitudes and behaviours using an established communications and marketing framework. A CBSM process will focus on situational analysis, definitions of success (i.e., reduced contamination of organics composting), the development of a resonant guiding narrative and key messages, and identification of opportunities for individuals and the community-at-large to support the goals of the plan.

If the CBSM engagement process is considered successful from a behavioural perspective (i.e., reduced resource use and increased waste diversion / reduction over time), future strategic planning efforts to conserve resources and reduce waste may capitalize on this momentum or otherwise direct focus to resource conservation and reduction efforts within municipal operations.

Municipal role(s):

- **Broker:** The City acts as a facilitator and connector to bring together organizations and individuals
- **Storyteller:** The City shares stories that build an inclusive narrative

Lead City department:

- Infrastructure (Operations)

Contributing City departments:

- Communications
- Community & Social Development
- Infrastructure (Environmental Lead)

Level of resourcing:

- Multiple staff members, part-time effort
- Potential for external consultant support

Potential partners:

- Industry, for participation
- Local educational institutions (students and teachers), for participation
- Non-governmental organizations (Canadian Stewardship Services Alliance, environmentally focused), to provide feedback and key message support
- Regional partners (Edmonton Metropolitan Region Board, other municipalities), to share practices
- Residents, for participation

Anticipated timeframe:

- Q4 2023 to Q4 2024 inclusive (five quarters), active engagement
- Q1 2025 to Q4 2026 inclusive (eight quarters), passive messaging and review

Key steps:

- **Q4 2023:** Establish goals and objectives, develop key messages, conduct communications and engagement planning, consult with environmental non-governmental organizations as prospective advisors
- **Q1 to Q4 2024:** Engagement program implementation
- **Q4 2024:** Post-engagement review of outcomes
- **Q1 2025 to Q4 2026:** Passive messaging in City of Beaumont community touchpoints (utility mailers, notifications); ongoing review of outcomes via measurement and monitoring framework and plan reporting

Links to other actions:

- **Pillar:** This action will be performed to requirement (2) included in **Section 3.1.2.2 Coordination and Collaboration**
- **Action FO.3:** Establish Environmental Ambassadors program
- **Action PF.1:** Pursue new environmental grant funding and partnership opportunities



Description:

The City of Beaumont will pursue new environmental grant funding and partnership opportunities made available through other levels of government and non-governmental organizations throughout the 2021-2026 period and beyond.

1. Engage the Alberta Capital Airshed (ACA) to become a member with the aim to coordinate policy responses across municipal boundaries within the Edmonton region and actively monitor air quality in Beaumont
2. With the Alberta Urban Municipalities Association (AUMA), engage the Government of Alberta in ongoing stakeholder discussions to help shape an Extended Producer Responsibility (EPR) regulatory framework for the province
3. Participate in the Government of Alberta's Clean Energy Improvement Program (CEIP) by passing an appropriate bylaw and collaborating with the provincially funded emissions-reduction agency to develop and deliver the program

Intended outcome: The City of Beaumont undertakes new funding and partnership agreements to access shared resources and support to achieve positive environmental impact within the Beaumont community, and beyond in the region and province.

Rationale:

The pursuit of new grant funding and partnership opportunities will allow the City of Beaumont to achieve greater positive environmental impact within the community, the region, and the province.

1. At present, air quality in Beaumont is passively monitored under the ACA; data is collected for ambient air concentrations of NO₂ and SO₂ only. To comprehensively understand air quality in Beaumont as defined by CAAQS (Canadian Ambient Air Quality Standards), a continuous monitoring station—implemented in partnership with the ACA—will be required. Membership with the ACA will also assist the City to develop a regional policy response respecting air quality and its impact on environmental and human health.
2. Under an EPR program, producers are given responsibility—whether financial or physical—to treat and/or dispose of the post-consumer products they generate. In Alberta, the financial responsibility and risk to recycle and dispose of waste has previously rested with municipalities. In tandem with other municipalities in the province, the City of Beaumont has an opportunity to shape policy according to its needs, reduce operating costs, and improve waste management practices in the province.

3. The Government of Alberta's CEIP is a Property Assessed Clean Energy (PACE) program that helps residents retrofit their properties with energy-efficient upgrades without paying the full cost at point-of-purchase. The cost of the upgrade is recovered via the municipality through the taxes levied on the property. This program will assist Beaumont to transition to a net-zero future while supporting economic development and allowing residents to save on energy costs.



Municipal role(s):

- **Leader/Owner:** The City embodies the environmental goals through their internal policies and actions
- **Supporter:** The City assists and builds capacity for other organizations

Lead City department:

- Infrastructure (Environmental Lead)

Contributing City departments:

- Communications
- Legal & Legislative Services
- Infrastructure (Operations, Infrastructure)

Level of resourcing:

- Multiple staff members, part-time effort

Potential partners:

- Government of Alberta, for funding support and policy advocacy
- Non-governmental organizations (Alberta Urban Municipalities Association, Beaumont & District Agricultural Society, Wild Beaumont), for collaboration and policy advocacy
- Regional partners (Alberta Capital Airshed, Edmonton Metropolitan Region Board, other municipalities), for collaboration and policy advocacy

Anticipated timeframe:

- Q3 2021 to Q1 2022 inclusive (three quarters), preliminary partnership and funding opportunities
- Q2 2022 onwards: exploration of new opportunities

Key steps:

- **2021 to 2022:** Collaborate, apply to, and/or advocate for identified programs and partnerships

Links to other actions:

- **Pillar:** This action will be performed to satisfy requirement (2) included in **Section 3.1.2.2 Coordination and Collaboration**
- **Action SP.4:** Complete Partners for Climate Protection program requirements
- **Action IS.4:** Deliver an engagement campaign to conserve resources and reduce waste





3.3 Moving Forward

Through this Environmental Master Plan, the City of Beaumont will continue its commitment to environmental management and progress in service of the long-term vision. The implementation framework in **Section 3.1** will guide a comprehensive and continual process of evolution and refinement that will inform the implementation of identified actions, the introduction of new initiatives, and the delivery of day-to-day services in support of the environment and people of Beaumont.

The City of Beaumont will revisit the Environmental Master Plan to celebrate its successes and review new opportunities at the conclusion of the five-year planning interval in 2026-2027, but in the meantime, there's work to be done. **Together.**

4.0

References

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5.0

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Potential Future Actions

Prospective future actions are included here for reference in future EMP planning processes and / or for discussion by the EAC during midstream review meetings and integration into current plan implementation. These actions were explored through the 2020-2021 planning process but were not selected due to direction emerging from one or more components listed in **Section 1.4: Guidance**.

A.1 Air

#	Potential Actions	Establishing Source
1	Implement a “dark sky policy” to reduce the impact of light pollution on human and wildlife populations and local ecosystems in Beaumont.	Public engagement
2	Develop and implement a community-focused light pollution education program focused on responsible lighting practices.	Public engagement
3	Increase enforcement of the Noise Abatement Bylaw 642/05 by incorporating a proactive enforcement element (i.e. regular monitoring by bylaw officers).	Public engagement
4	Design and adopt a community-wise Noise Attenuation Strategy, with particular emphasis on noise mitigation from construction, renovation, and demolition (CRD) in residential areas.	Public engagement

A.2 Community Design

#	Potential Actions	Establishing Source
1	Design and implement an agricultural impact assessment (AIA) framework to evaluate and manage the impact of non-agricultural land uses to and on lands used for agriculture in new growth areas.	Municipal Development Plan (MDP), staff comment, EMRB <i>Growth Plan</i>
2	Study feasibility of applying conservation easements to protect agricultural lands.	MDP, EMRB <i>Growth Plan</i>
3	Create a Brownfield Strategy to ensure that contaminated lands can be responsibly and safely redeveloped for residential and light commercial uses.	2013 Environmental Master Plan (EMP), MDP
4	Develop and implement a sustainability policy governing municipal buildings and infrastructure.	Public and internal stakeholder comment related to Action IS.2
5	Create a companion document to the <i>Beaumont Urban Design Guidelines</i> focused on sustainable urban development practices.	Public and internal stakeholder comment related to Action DD.1

A.3 Ecology

#	Potential Actions	Establishing Source
1	Create environmental areas of community pride.	<i>Council Strategic Plan, Recreation and Culture Master Plan; Recreation, Parks, and Facilities Master Plan, public engagement</i>
2	Conduct and maintain community stewardship programs.	MDP

A.4 Energy

#	Potential Actions	Establishing Source
1	Create an Energy Conservation Strategy.	MDP, 2013 EMP, EMRB <i>Growth Plan</i>
2	Conduct a feasibility study focused on electrifying Beaumont Transit and the corporate fleet.	Transportation Master Plan (TMP)
3	Implement energy recovery and green energy through the implementation of bio-energy, district energy, and renewable energy systems for new development and redevelopment.	MDP
4	Ensure that all new municipal buildings are designed/developed to model energy efficiency and meet a LEED standard (or equivalent).	2013 EMP
5	Develop a community energy and emissions plan to outline a long-term strategy for enabling local business and residents to improve their energy management practices.	2013 EMP
6	Develop an education and outreach program that helps community members identify low cost/high impact energy saving opportunities, such as clotheslines, programmable thermostats, and energy efficient lighting.	2013 EMP
7	Provide information and resources to residents to explore the use of innovative energy technologies such as solar photovoltaic and thermal energy systems, and other small renewable energy systems.	2013 EMP
8	Develop and maintain a comprehensive corporate and community inventory of energy use, costs, and associated greenhouse gas emissions.	2013 EMP, staff comment
9	Ensure energy conservation, recovery in community design / development to reduce energy consumption.	EMRB <i>Growth Plan</i>
10	Introduce architectural guidelines and regulation to foster solar and energy efficiency.	Staff comment
11	Conduct energy audits for municipal facilities - explore potential for retrofit programs.	Staff comment



A.5 Waste

#	Potential Actions	Establishing Source
1	Maintain a Waste Diversion Strategy.	MDP
2	Prohibit single-use plastic products among commercial operators in Beaumont.	Staff comment, public engagement
3	Plan and implement a recycling transfer station in Beaumont.	Staff comment
4	Design and implement a signage / environmental graphics program to support waste diversion within municipal facilities.	Staff comment
5	Update Fees & Charges Bylaw (986/20), impacting residential solid waste collection fees, extra cart fees, cart violations, disposal violations, and south sanitary connection fee.	2013 EMP
6	Provide free-of-charge food waste disposal units to all residents to increase residential composting convenience.	Municipal practice
7	As part of a future Waste Bylaw (762/10) update, include mandatory construction, renovation and demolition recycling and composting verbiage.	Municipal practice
8	Launch a collaborative 'Circular Economy Change Lab (with residents, local waste diversion leaders, and subject matter experts from the non-profit and private sectors), focused on collaborating to prevent waste in Beaumont.	Municipal practice

A.6 Water

#	Potential Actions	Establishing Source
1	Create a Water Conservation Strategy.	MDP, 2013 EMP, EMRB <i>Growth Plan</i> , staff comment, public engagement
2	Promote low-water landscaping practices (xeriscaping, naturalization) in publicly owned park spaces.	Staff comment, public engagement
3	Expand existing financial rebate programs to include appliances and outdoor drought-resistant plantings.	Staff comment
4	Update Beaumont's General Design Standards to promote the increase of infiltration and/or exfiltration testing for new and existing sanitary sewer infrastructure to identify sources of inflow and infiltration.	Alberta Capital Region Wastewater Commission review feedback

Engagement Results

B.1 Phase 2 Engagement

The Phase 2 “What We Heard” report provides a summary of engagement and communication methods, an overview of what was heard (outcomes and themes) from consulted stakeholders, and discusses next steps for the project as of January 2021. The first engagement process was delivered from November 2 to 30, 2021, and offered an opportunity for participants to provide ideas and feedback to inform the development of the Environmental Master Plan.

Beaumont Environmental Master Plan

Phase 1 Engagement
January 2021

What We Heard



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Phase One of the Beaumont Environmental Master Plan (EMP) public engagement process has concluded, with 41 participants providing key feedback in response to questions of environmental impact, priority focus, and plan implementation.

The following What We Heard report highlights the feedback offered by Beaumont residents, businesses, and volunteers. Participants engaged with the November 2020 phase through an online questionnaire, targeted stakeholder “user experience” interviews, and City of Beaumont social media channels. Given the complexity of environmental systems, public feedback focused on issues as diverse as active transportation, air quality, and habitat preservation. From participant feedback, several engagement themes were identified:

1. Increase and formalize the number of available waste management options in Beaumont
2. Promote renewable energy and efficient water use through corporate facilities management and community incentivization
3. Explore low-impact urban development to minimize the environmental cost of urban growth
4. Enforce existing bylaws respecting waste management, vehicle idling, and noise abatement
5. Foster partnerships with local community organizations and neighbourhood schools
6. Broaden education and outreach efforts to motivate environmental action

This important public feedback, coupled with outcomes from environmental policy review and internal staff discussions, will form the basis of the environmental planning process to follow in early 2021.

The Beaumont Environmental Master Plan project team thanks all participants for their time and effort in providing thoughtful feedback in response to the engagement questions. There will be more opportunity to participate in the second phase of engagement, anticipated in spring 2021.

B1.0 Introduction

In 2012, Beaumont Town Council commissioned Beaumont's first Environmental Master Plan to promote an integrated approach to sustainability. The EMP planning process explored the "triple bottom-line" elements of economic, environmental, and social sustainability in terms of both day-to-day municipal operation and long-term community development.

While largely focused on programs and initiatives to be delivered by municipal administration, the EMP also included several initiatives for residents, businesses, and community groups to undertake in support of the plan's sustainability goals.

Following the direction set out in the current Municipal Strategic Plan, the EMP is now undergoing a review process that will lead to the creation of a new plan in 2021. As part of this process, the City of Beaumont ("the City") is engaging the community to learn more about both the challenges and potential opportunities to support a more resilient environment in Beaumont.

Through a tailored engagement plan that responds to current socially-distanced realities, the City sought feedback from the community on issues impacting environmental focus areas such as air, energy, waste, and water; potential priorities for the updated plan; and the ways in which the community and the City could work together to support environmental sustainability.

In 2021, the City will continue the development of the updated EMP in discussion with municipal staff and subject matter experts drawn from community groups and environmental non-governmental organizations within the region. Together, input from the community, municipality, and other civil society groups will be used to validate, refine, and prioritize strategy and supporting actions for the forthcoming plan.

B2.0 Process and Methods

In support of the Environmental Master Plan development process, a tailored engagement process was delivered to ensure Beaumont residents and industry could provide their insights and feedback on the current and future state of the local environment.

At its core, the engagement process was designed to gain insight into these three areas of concern:

- What issues are of greatest concern to the health of the environment in Beaumont?
- How should the City of Beaumont prioritize its environmental service delivery?
- What role should individuals and community groups in Beaumont play in promoting positive environmental impact?

The first phase of engagement—focused on building this foundational understanding of the environment in Beaumont—took place for a period of four weeks from November 2-30, 2020. During this time, 41 participants from the community provided feedback to the question prompts across the different engagement methods.

B2.1 Engagement Methods

Participants in the process provided feedback through a number of different methods:

- Completion of an online questionnaire available at the project webpage,
- Engagement through a series of one-on-one interviews, and
- Interaction with the City's online platforms

A community workshop was organized and delivered on November 25, 2020 via video conference but concluded early due to lack of interest. The workshop was intended to provide the opportunity for an in-depth discussion about the key issues impacting Beaumont's environment, and how those impacts influence the lived experience of workshop attendees.

Section B3.0 outlines the outcomes associated with each of these engagement methods.



B21.1 Questionnaire

Print and online questionnaires were made available for the duration of the engagement period from November 2 to 30, 2020. The questionnaire explored the key issues impacting the environment in Beaumont and the potential strategic direction the Environmental Master Plan could take in response. Participants were also asked to consider the types of interventions that would be most effective in achieving positive environmental impact in Beaumont, from education and outreach programs to the development of new infrastructure, and to identify any promising best practices that have been piloted in other jurisdictions.

From November 2 to 30, 2020, the online questionnaire received 34 complete and 17 partial responses from self-selected participants for a 66.7% completion rate. No print questionnaires were submitted.

B21.2 Interviews

As part of the November 2020 engagement process, the project team conducted a series of seven user experience mapping interviews with selected stakeholders drawn from both the local community and environmental organizations.

User experience mapping integrates in-depth user perspectives into the strategic planning process by asking selected stakeholders to illustrate their experience with a service and topic in detail. The process identifies parts of the user experience that are unexpected; as these unheralded issues are integrated into the strategic planning process, the resulting plan direction becomes more robust, grounded, and reflective of the community it serves.

B21.3 Online Platform Engagement

Through the EMP project page at beaumont.ab.ca/emp, the City shared project details, advertised engagement opportunities, and provided a means for feedback via email and questionnaire. The website remains live and will continue to provide updated information through the process. From October 1 to December 8, 2020, the project webpage received 118 unique visitors and 152 page views.

The City's Facebook and Instagram social media accounts were also used to advertise the process and solicit feedback. Across three posts (two advertising the EMP in specific, and one the City's public engagement opportunities in general), 10.5k social media accounts were reached, with a combined 447 post clicks and 66 likes, comments, or shares in response.

B2.2 Communication Methods

Engagement opportunities were communicated through the following approaches:

- A dedicated project page, containing a comprehensive list of engagement opportunities, on the City of Beaumont website at beaumont.ab.ca/emp
- Direct interview invitations to representatives associated with local community groups
- Social media advertisements via the City of Beaumont accounts
- Weekly advertisements in La Nouvelle Beaumont community newspaper
- Engagement cross-promotion with concurrent Age-Friendly and Affordable Housing planning processes.

B3.0 Engagement Outcomes

This section provides an overview of the outcomes from the interview and questionnaire engagement methods. In section B4.0, the key themes emerging from these process outcomes are discussed.

B3.1 Questionnaire

Demographics

Respondents were asked to provide basic demographic information as a means to understand the prospective audience of the plan for messaging and programming purposes. The majority of respondents are between 25-44 years old (61.3%) and possess an undergraduate degree or higher (75.5%). Where tenure is concerned, the majority of respondents have lived in Beaumont for five years or more (80.9%) and own property within the community (89.4%).








Questions

Participants were asked to consider the issues affecting the environment in Beaumont, the strategic direction that the EMP may take (with reference to EMP ‘focus areas’) and potential actions and best practices that could be applied to achieve positive environmental outcomes. The following questions were posed:

1. What do you believe the City of Beaumont’s environmental priorities should be? (air, active transportation, biodiversity, energy, land management, waste, water)
2. Are there any environmental priorities you believe should be included in the list above?
3. What is the most significant environmental issue affecting Beaumont today?
4. Are there environmental initiatives you have seen elsewhere which may be appropriate for use in Beaumont?
5. How can Beaumont best achieve its environmental priorities? (i.e. education and outreach, financial incentives, bylaws and policies, infrastructure development, other)

1. What do you believe the City of Beaumont’s environmental priorities should be?

This question provides insights into what participants view as the most important environmental elements that should be addressed by the City of Beaumont. These environmental elements will appear as “focus areas” within the final Environmental Master Plan—a common convention that allows complex environmental systems to be categorized into discrete pieces. Participants collectively rated elements of waste (175 score), water (165 score), and land management (164 score) highest, while rating air (132 score) and active transportation (118 score) lowest.

Item	Rank	Distribution	Score
Waste	1		175
Water	2		165
Land Management	3		164
Biodiversity	4		146
Energy	5		143
Air	6		132
Active Transportation	7		118


lowest rank  highest rank

Table 1. Environmental priorities by rank.

2. Are there any environmental priorities you believe should be included in the list above?

Individual responses often re-emphasized the importance of listed environmental priorities, with reference to biodiversity and low-impact development (6 references), renewable energy (2), and waste management (2). Other suggested areas of focus included noise pollution (2 references), sense of community (1), and climate change (1). To the latter point, the EMP aims to attend to the overarching theme of climate change within each of the plan’s eventual focus areas.



3. What is the most significant environmental issue affecting Beaumont today?

This question provides additional insight into the environmental priorities discussed above. Participants most commonly cited waste reduction, composting, and recycling (11 references), threatened biodiversity (6), urban planning and transportation impacts (6) and renewable energy transition (6) as the defining environmental issues in Beaumont.

The complete list of cited issues is provided below.

Identified issue	Count
Waste reduction, composting, and recycling	11
Threatened biodiversity	6
Urban planning and transportation impacts	6
Renewable energy transition	6
Lack of bylaw enforcement (idling, waste)	4
Poor air quality	3
Flooding and water management	2
Lack of regional transit	1
Lack of plants / trees	1
Insufficient park spaces	1
Waste collection	1
Salt use on roadways	1
Lack of social concern for environment	1
Density	1
Noise pollution	1
Energy costs	1
Climate change	1

Table 2. Identified environmental issues.

4. Are there environmental initiatives you have seen elsewhere that may be appropriate for use in Beaumont?

This question provides insight into the experiences and observations of those participants who are from or have visited other jurisdictions within the region, the country, and the world. There were no overwhelmingly popular suggestions; the recommendation for corporate renewable energy projects (building development and retrofitting, vehicle fleet electrification, energy efficiency certification) was the most popular with 5 references.

The suggested initiatives are presented below.

Environmental initiative	Count
Corporate renewable energy projects	5
Urban forestry supported by local partnerships and municipal leadership	3
Rebate programs for renewable energy and efficiency	3
Improved recycling and composting programs	3
Naturalization (encourage pollinators and birds, native plants and grasses)	2
Urban agriculture (school and community gardening, edible plants in right-of-ways)	2
Single-use plastics ban	2
Electric vehicle charging infrastructure	2
Sustainable transportation (rapid transit, cycling, parking reduction)	2
Urban land management (growth boundaries, ecologically sensitive land reserves)	2
Grassroots community initiatives support	1

Table 3. Potential environmental initiatives.

5. How can Beaumont best achieve its environmental priorities?

This question provides insight into the approaches that the City may take to achieve its environmental aims. As illustrated in Figure 1, there is an even level of support for three of the four different approaches offered; infrastructure development is the outlier, with 57.9% of support relative to the 68.4% support enjoyed by education and outreach programs, financial incentives, and bylaws and policies. Participants offered other “write-in” suggestions to provide employment for the purpose of maintaining greenspaces, using pilot programs to test ideas, slowing industrial development, creating green infrastructure, and adopting specific environmental measures.

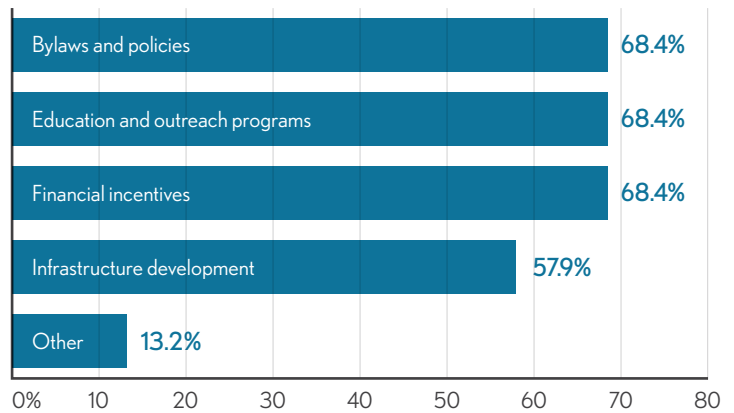


Figure 1. Stated preference for potential environmental management approaches.

B3.2 Interviews

In these user experience mapping interviews, interviewers asked participants to consider an average “day in the life” to explore how the environment in Beaumont (and beyond) shapes their experiences. From there, the interviewers moved on to a broader line of questioning focused on how environmental planning and policy can be leveraged to resolve identified issues and effect positive impact.

The “day in the life” portion of the interview revealed a number of evident and not-so-evident environmental influences on the daily lives of participating Beaumontians. These influences are experienced through:

- **Active transportation and leisure activities:** Enjoying outdoor recreation and natural areas, walking and cycling along Beaumont’s trail network, observing the state of the environment, limiting car use by relying on active modes of transportation.
- **Daily essentials shopping:** Buying in bulk, from Community Supported Agriculture boxes, and selecting environmentally-friendly products.
- **Environmental stewardship:** Participation in urban agriculture activities; maintaining local water resources; participating in organized and ad-hoc environmental clean-up; planting native grasses, trees, and “pollinator pathways”; organizing water retention infrastructure (rain barrels, artificial ponds) on private lands; limiting chemical use, and limiting energy and water use within the home.
- **Volunteer and educational opportunities:** Community outreach and education on environmental topics, youth engagement, advocacy and writing.
- **Professional life:** Supporting corporate sustainability policies; promoting energy efficiency and air quality efforts within the workplace.

With these influences identified, interviewees provided several ideas for how to improve the environment in Beaumont. Broadly, these recommendations were concerned with:

- Increasing the rigour and transparency of plan implementation by the City of Beaumont
- Building new partnerships, education, and outreach opportunities
- Creating new waste diversion programs that, appropriately, seek to divert waste from the landfill by composting, recycling, or repurposing waste products
- Decreasing water use through improved infrastructure and efficiency programs
- Supporting water quality and community resiliency through watercourse retention in community design and naturalized stormwater management
- Decreasing energy use through support for renewables and efficiency programs
- Conserving biodiversity through native grass and tree plantings, applying low-impact development principles in urban development, and ensuring connected habitat for local insect and animal wildlife.



A day in the life in Beaumont.

The Environmental Master Plan team conducted a series of interviews with different kinds of residents in Beaumont to understand a typical day in their life and how environmental considerations informed their actions. The table below summarizes the common themes heard through these interviews.

Time of Day	Morning	Afternoon	Evening
	In the morning, people are getting themselves and their families ready for the day. They are beginning their work day and getting into the varied demands on their day. In some instances, work responsibilities have a direct relationship to the environment.	In the afternoon, people are continuing with their work day. As they wrap up their work demands, people are then taking care of errands, such as purchasing necessities and are also using their leisure time to connect with the outdoors in various ways.	In the evening, people are generally relaxing and unwinding. Those that are spending time on environment-related issues were related to work demands, when they need to spend some time in the evenings on professional responsibilities.
Environmental Considerations	<ul style="list-style-type: none"> ● Volunteer & Educational Work ● Outdoor Activity 	<ul style="list-style-type: none"> ● Outdoor Activity ● Purchasing Necessities ● "Green Thumb" Activities 	<ul style="list-style-type: none"> ● Professional Work
Examples of Actions	<ul style="list-style-type: none"> ● Working on agricultural lands ● Maintaining local water resources ● Participating in urban agriculture, food forest, planting with a purpose ● Writing grant applications ● Teaching youth about participation in the environment ● Walking to Don Sparrow Lake ● "Checking in" on the state of the environment ● Visiting Four Seasons Park ● Walking as a part of the day ● Cleaning up the environment 	<ul style="list-style-type: none"> ● Taking advantage of outdoor recreation opportunities ● Commuting actively ● Visiting the farmer's market ● Choosing environmental products ● Shopping in bulk ● Reusing shopping bags ● Reusing water through rain barrels and pond water ● Composting and gardening ● Using natural approaches to pest management ● Limiting pesticide use ● Limiting energy and water use within the home 	<ul style="list-style-type: none"> ● Developing energy efficiency policy ● Air quality management

These insights help the Environmental Master Plan project team understand where local residents are currently focusing their efforts to have a positive impact on the environment in Beaumont. These existing efforts highlight current areas of interest, which will inform the initial action planning steps in the EMP process. This understanding of lived experiences also provides insights into how new initiatives can support how people live in Beaumont.

B4.0 Engagement Themes

From the interview and questionnaire feedback, several key themes have been identified for consideration in the forthcoming planning process. Each of these themes are discussed in some detail—and paired with corresponding verbatim quotes wherever possible—below.

1. Increase and formalize the number of available waste management options in Beaumont.

Description: Interview and questionnaire participants placed waste management as a significant priority for environmental action in Beaumont. This feedback assumed many forms, with greatest emphasis placed on bylaws, policies, and infrastructure. Participants noted that municipal waste management in multi-family housing could be made compulsory, and that the City could assume a leadership role in the exploration of new and unconventional forms of waste management. Examples include: the creation of a “Reuse Centre” that accepts items from community members and refurbishes them for use by individuals and organizations; the provision of waste management and composting facilities in Beaumont, and the introduction of Extended Producer Responsibility through vendor agreements with the City of Beaumont.

VERBATIM QUOTES:

“Lower our waste footprint by focusing on compost initiatives (teaching residents how important composting is and how easy it is to do).”

“Push for ‘green’ garbage disposal, i.e. push from Beaumont to use green carts and recycling. Perhaps the city should hire waste auditors to do random non checks to ensure waste is being disposed of properly.”

“Waste; I think a push on reducing waste would make a big impact. I really like the composting program, but reduction in waste (such as a ban on plastics) would be great.”

2. Promote renewable energy and efficient water use through corporate facility management and community incentives.

Description: Energy and water use were recurrent messages throughout the engagement process, echoed in part by water being the second-most selected environmental priority in Question 1. Energy and water use were discussed in terms of renewability and efficiency, respectively. In effect, how might the City of Beaumont promote the sustainable use of resources through new technologies and paradigms while also encouraging simple steps that can be carried out by the community now?

Participants suggested that the City of Beaumont could lead by example by promoting renewable and efficient resource use within its corporate facilities and among its vehicle fleet, the purchase of carbon credits to offset conventional energy use, and the introduction of new sustainable energy pilot programs to demonstrate the efficacy of such “proofs-of-concept.”. Participants also noted the prospective use of community-based incentives to motivate change, such as the introduction of energy rebates for residents looking to install solar panels and other renewable energy technologies.

VERBATIM QUOTES:

“Encouraging/supporting green energy in businesses and municipal buildings.”

“I think Beaumont should push renewable energy (residential and commercial solar projects).”

“Energy Efficiency - Public buildings should meet the LEED certification for Energy Efficiency and design. Electric Vehicle Recharging Station Infrastructure - Partner with Provincial Government & Local Businesses for convenient locations, and cost sharing.”

“Energy production and storage needs. We need to transition to sustainable resources like wind and solar. As well as having some form of storage like battery packs to offset downtime of the solar and wind.”

3. Explore low-impact urban development to minimize the environmental cost of urban growth.

Description: The impact of urban development and conventional transportation on the environment was a consistent theme through both interview and questionnaire engagement. This ranged from diffuse references to “poor planning” and limited opportunity for sustainable transportation to specific statements on the destruction of watercourses (wetlands, streams) and the loss of biodiversity due to urban development.

In response to these identified challenges, participants recommended increased emphasis on responsible environmental planning that prioritizes the incorporation of naturalized green spaces into neighbourhoods, the inclusion of natural watercourses into community planning, and the provision of pollinator pathways (contiguous bee habitats) in open space design to support biodiversity. Urban agriculture was referenced as a community-led initiative that could help sustain and grow biodiversity within Beaumont.



VERBATIM QUOTES:

“Beaumont is developing land that was previously part of natural wetland habitat with many unseen but endangered species making these areas their home. Biodiversity, for environmental sustainability, should be considered when developing these areas.”

“Commuter traffic needs to be more sustainable. Transit is great (except during COVID) but Expanding routes to different areas of South Edmonton would be beneficial.”

“Running houses right up to water features that flood every spring is not good planning. Use biodiverse planting suitable for riparian areas and other suitable plants to help deal with spring flooding.”

4. Enforce existing bylaws respecting waste management, vehicle idling, and noise abatement.

Description: Common to the interview and questionnaire responses was the need to enforce existing City of Beaumont bylaws focused on preventing littering, vehicle idling, and noise pollution to both reduce environmental impact and maximize public health and “quality of life” outcomes.

VERBATIM QUOTES:

“Noise pollution, maybe especially in the older part of the city, where there is zero clearance between properties.”

“Noise pollution. Enforcement of our no-idling law, which is part ... of Air in the list.”

“The constant waste and litter around town [is the most significant environmental issue facing Beaumont today].”

5. Foster partnerships with local community organizations and neighbourhood schools.

Description: Participants—perhaps due to their engagement with and interest in environmental issues—cited the need and potential for the formation of partnerships between the City of Beaumont and local industry, community organizations and neighbourhood schools to prompt environmental action. Interviewees envisioned these partnerships as a means to achieve a specific end—such as redirecting produce waste from grocery stores to local composting programs—and to promote lifelong participation in environmental stewardship among Beaumont residents.

Recommendations include the cross-promotion of environmental “success stories” among the City and volunteer groups and the mobilization of the Beaumont community through volunteer and subject matter expert social networks.

6. Broaden education and outreach efforts to motivate environmental action.

Description: In support of new community partnerships, participants in the engagement process also pointed to the need to introduce educational opportunities to promote positive environmental action. This direction was referenced in three ways. In the first, general education and outreach, particularly aimed at youth, was recommended to increase knowledge of environmental systems and positive behaviours. In the second, tailored education programs could improve awareness of and participation in environmental initiatives conducted by the City of Beaumont. In the third, education could be paired with demonstration projects—like community gardens—to promote community-led volunteer initiatives.



B5.0 Next Steps

With the first phase of public engagement now complete, the EMP project team will now move to place these broad feedback themes and direction provided by the public in context of City of Beaumont priorities and environmental best practice and begin the development of a draft Environmental Master Plan.

This draft plan will be shared for public review and feedback to determine the extent to which public sentiment was accurately captured in the planning process and to modify as needed. We anticipate the draft plan will be ready for public review and comment in spring 2021.

Thank you to those who participated in the first phase of engagement. To learn more about the project and to keep informed of the ongoing planning process, visit beaumont.ab.ca/emp.



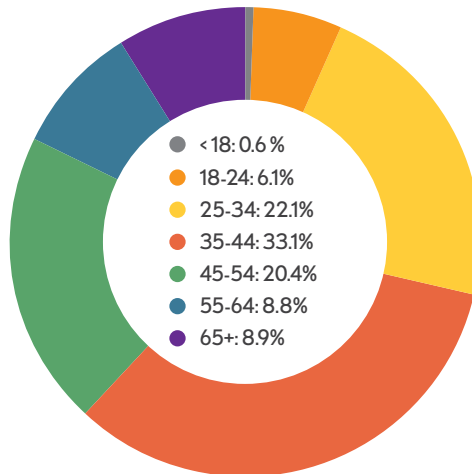
B.2 Phase 4 Engagement

From May 14 to May 31, 2021, the draft Environmental Master Plan was released for public review. Participants were invited to read the draft EMP, watch a walkthrough video to better understand the purpose and scope, connect with the City via email and social media platforms, and take a survey to share feedback on the draft.

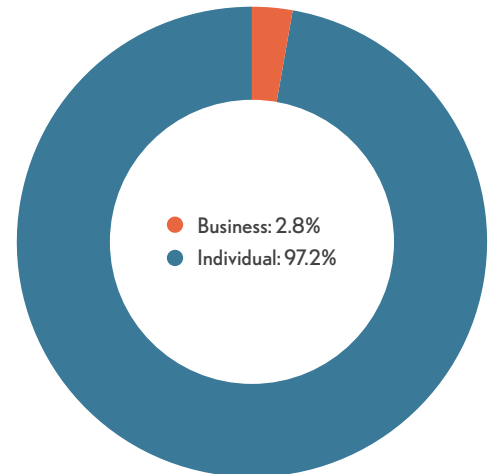
B.2.1 Participation and Demographics

The survey asked participants to rate each of the EMP's draft actions on a five-point Likert scale and provide responses to open-ended questions about each of the actions and the overall direction of the plan itself. Participants were also asked to provide basic demographic information to identify themselves as a resident or representative of a local business or organization, and to declare their interest in the implementation of the plan over the next five years. Summary graphs and tables are provided here for a picture of the second engagement process.

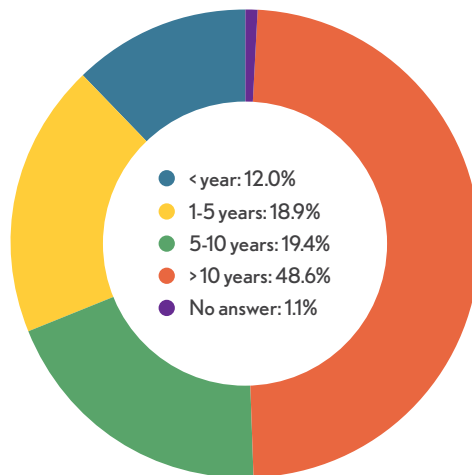
Participants, May 14 to May 31, 2021: 182



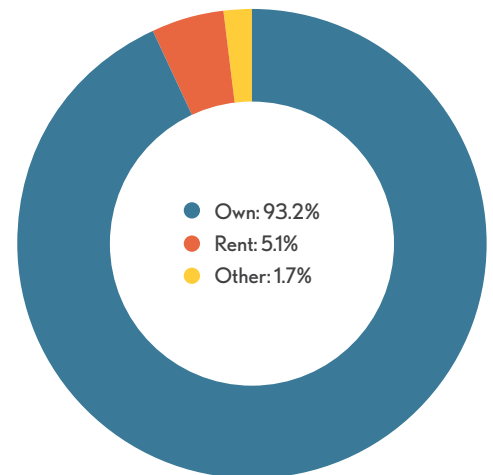
Respondents by age



Respondent type - individual/business/organization



Residential tenure in Beaumont



Ownership / rental status of respondents

B.2.2 Action Assessment

5-point Likert scale condensed into positive (Strongly Agree, Agree), neutral, and negative (Strongly Disagree, and Disagree). Actions correspond to draft Environmental Master Plan actions (April 2021); subsequently changed based on feedback. No actions fell below majority support and thus remained in the final plan after modification as needed.

Actions referenced as they appeared during the engagement process.

#	Actions	Positive	Neutral	Negative
1	Create an environmental monitoring and measurement framework	77.22%	19.44%	3.33%
2	Inventory and digitize Beaumont's environmental assets in GIS	80.66%	14.92%	4.42%
3	Establish Environmental Ambassadors program	80.56%	11.67%	7.78%
4	Update Beaumont Urban Design Guidelines (BUDG) to include additional sustainable building design guidelines	82.22%	13.89%	3.89%
5	Create low-impact development (LID) engineering standards	91.11%	5.56%	3.33%
6	Implement an Urban Agriculture Pilot Program	67.96%	19.89%	12.15%
7	Create an Urban Forestry Strategy	91.11%	4.44%	4.44%
8	Create a Biodiversity Strategy	79.56%	14.36%	6.08%
9	Complete Partners for Climate Protection (PCP) program requirements	60.00%	18.89%	21.11%
10	Pilot on-demand local transit	51.93%	26.52%	21.55%
11	Retrofit municipal light infrastructure with energy-efficient lighting	87.29%	10.50%	2.21%
12	Update municipal procurement policy to support environmental sustainability	67.22%	20.56%	12.22%
13	Deliver an engagement campaign to conserve resources and reduce waste	67.78%	21.67%	10.56%
14	Pursue new environmental grant funding and partnership opportunities	76.67%	14.44%	8.89%



B.2.3 Open Comment Themes

Themes generated from review of participant open comments in response to questions “do you have any thoughts about the overall direction of the EMP?” and “do you have any thoughts about the actions listed above?” These questions were optional.

Top-ranking general or supportive themes provided by participants included:

- Implementing the EMP in a transparent and fiscally responsible manner
- Offering educational opportunities to help Beaumontians make sustainable choices
- Support for urban agriculture and ecological stewardship
- Increased emphasis on green infrastructure and energy efficiency in the EMP

Themes	Count
General	
Fiscal responsibility	12
Education	6
Implementation	5
Stormwater management	3
Ambition - increase	1
Ambition - reduce	1
Community engagement	1
Community needs	1
Expand engineering guidelines	1
Expansion of recycling	1
External funding	1
Impact of development	1
Reduction of driving	1
Sustainability leadership	1
Tree plantings	1
Support	
Support - General	13
Support - Urban agriculture	13
Support - Energy efficiency	11
Support - Ecology	10
Support - Green spaces	9
Support - Improved waste management	5
Support - Active transportation	3
Support - Community design	2
Support - Measurement	1
Support - Transit	1
Support - On-demand transit	1
Support - Electric vehicle infrastructure	1
Support - Water quality	1
Support - Citizen science	1
Concern	
Concern - on-demand transit	1
Complaint	
Complaint - General	6
Complaint - Plan	3
Complaint - Waste management	2

B.2.4 Participation and Interest

Question 5.1 asked participants which, if any, actions they would like to participate in or otherwise support. Actions correspond to draft Environmental Master Plan actions (April 2021); subsequently changed based on feedback.

The 'Environmental Ambassadors' and 'Plans & Programs' actions displayed the most interest from the participating public.

It is anticipated that each of these actions will feature a public engagement / participatory process ranging from potential citizen science (Biodiversity Strategy) to demonstration projects (Urban Agriculture).

Actions referenced as they appeared during the engagement process.

#	Actions	Count
1	Create an environmental monitoring and measurement framework	15
2	Inventory and digitize Beaumont's environmental assets in GIS	13
3	Establish Environmental Ambassadors program	21
4	Update Beaumont Urban Design Guidelines (BUDG) to include additional sustainable building design guidelines	16
5	Create low-impact development (LID) engineering standards	6
6	Implement an Urban Agriculture Pilot Program	28
7	Create an Urban Forestry Strategy	28
8	Create a Biodiversity Strategy	22
9	Complete Partners for Climate Protection (PCP) program requirements	10
10	Pilot on-demand local transit	17
11	Retrofit municipal light infrastructure with energy-efficient lighting	14
12	Update municipal procurement policy to support environmental sustainability	9
13	Deliver an engagement campaign to conserve resources and reduce waste	17
14	Pursue new environmental grant funding and partnership opportunities	16



Municipal Benchmarking

Results of the municipal benchmarking process—focused on the development of environmental performance indicators and exploration of potential performance targets—are included here. Results from this process were used to inform the Phase 3 Strategy Sprint in particular and plan development in general.

Material included here has not been substantially modified since its submission prior to the Strategy Sprint in February 2021.

C.1 Introduction

Absent current environmental performance data for the City of Beaumont, the team sought to provide a context for indicator development, target setting, and data collection based on the environmental performance (where data was available) of 16 municipalities in Alberta.¹⁶ Given the shared legislative, political, and economic context, benchmarking was restricted to municipalities located in Alberta. The majority (10) of selected municipalities are members of the Edmonton Metropolitan Region, with the remainder drawn from Central Alberta and the Calgary Region. Data included in this benchmarking report is drawn from the most current, publicly available reporting provided by municipal governments, regional boards, and utility providers.

The benchmarking exercise was organized by prospective environmental focus areas first discussed in the September 2020 “Plan Review” document. These focus areas are: air, community design, ecology, energy, waste, and water.

Difficulties experienced in finding recent and reliable data for the air, energy, and water focus areas may demonstrate challenges instituting effective data measurement and monitoring programs for Beaumont.

Each benchmarking metric from the surveyed municipalities will have a story to tell, including development, economic, and political history; policy context, and resourcing and capacity. For instance, developed land area is the result of the accumulation of policy, economic, and environmental decisions made over years. It is also worth noting that some common indicators are less subject to direct human influence than others. For instance, while corporate water use may be controlled by water conservation measures instituted by municipal operators, the concentration of ozone within the same municipality is subject to many more influencing factors beyond any one group’s control.

Data was sourced and collected in accordance with several common environmental benchmarking indicators, listed in the adjacent table.

16. Selected municipalities from the Edmonton Metropolitan Region (Edmonton, Strathcona County, St. Albert, Spruce Grove, Parkland County, Leduc (City), Leduc (County), Fort Saskatchewan, Sturgeon County, and Stony Plain), Calgary, Red Deer, Lethbridge, Medicine Hat, Airdrie, and Okotoks.

Potential Indicator	Focus Area	Description
Concentration, Carbon Monoxide (CO)	Air	1-hour and 8-hour average concentrations of carbon monoxide, parts-per-million (ppm).
Concentration, Nitrogen Dioxide (NO ₂)	Air	1-hour and annual average concentrations of nitrogen dioxide, parts-per-billion (ppb).
Concentration, Ozone (O ₃)	Air	1-hour daily maximum concentration of ozone, ppb.
Concentration, Fine Particulate Matter (PM _{2.5})	Air	24-hour daily average concentration of fine particulate matter, micrograms per cubic metre of air (µg/m ³).
Concentration, Sulphur Dioxide (SO ₂)	Air	1-hour, 24-hour, 30-day, and annual average concentrations of sulphur dioxide, ppb.
Mode share	Community Design	Modes of travel for commute to work for employed labour force (15+) in 2016, collected by Statistics Canada.
Developed land area	Community Design / Ecology	Built-out municipal land area, does not count undeveloped (land bank) holdings, square kilometres (km ²).
Amount of natural areas	Community Design / Ecology	The extent of natural area (in hectares [ha]) under the stewardship of the parent municipality.
Natural areas as % of land area	Community Design / Ecology	The proportion of natural areas within a municipality relative to total built-out land area.
Population density	Community Design	Population density—people per square kilometre (km ²) for Census Subdivision (CSD) units—equivalent to municipalities, Statistics Canada.
Cumulative distance of cycleways & pathways	Community Design / Ecology	Total length (kilometres) of all public cycleways and pathways in the community.
Tonnes, CO ₂ emissions from producers emitting over 50 kilotonnes (kt)	Energy	Amount of CO ₂ equivalent emissions from facilities emitting over 10kt, as required by Canada's Greenhouse Gas Reporting Program (GHGRP). Denotes municipalities with significant industrial economies.
Per capita greenhouse gas emissions	Energy	Amount of greenhouse gas emissions (tonne CO ₂ equivalent) per resident (t CO ₂ e / resident).
Cumulative greenhouse gas emissions	Energy	The total t CO ₂ e generated by corporate (municipal) and community sectors.
Corporate greenhouse gas emissions	Energy	The t CO ₂ e generated by the corporate (municipal) sector.
Corporate energy use	Energy	Energy used in gigajoules (GJ) by the corporate sector.
Community greenhouse gas emissions	Energy	The t CO ₂ e generated by the community sector.
Community energy use	Energy	Energy used in gigajoules (GJ) by the community sector.
Potable water energy use	Water	Energy used (kW/h) per megalitre (ML) produced.
Potable water consumption, residential	Water	Litres / person / day of treated water for residential users.
Potable water consumption, other	Water	Litres / person / day of treated water for other users.
Concentration, phosphorus	Water	Concentration of phosphorus in wastewater after treatment, mg/L.
Concentration, ammonia	Water	Concentration of ammonia in wastewater after treatment, mg/L.
Concentration, total suspended solids (TSS)	Water	Concentration of total suspended solids in wastewater after treatment, mg/L.
Concentration, Carbonaceous Biochemical Oxygen (CBODs)	Water	Concentration of carbonaceous biochemical oxygen in wastewater after treatment, mg/L.
Concentration, Fecal Coliforms	Water	Concentration of fecal coliforms in wastewater after treatments, colony forming units (CFUs).
Wastewater collected	Water	Amount of wastewater collected by water treatment plants, megalitres (ML).
Power consumed per ML collected	Water	Power consumed to process wastewater, per megalitre (ML).
Composting per capita	Waste	The amount of compost generated per capita population (2016), kilogram (kg).
Recycling per capita	Waste	The amount of recycling generated per capita population (2016), kilogram (kg).
Waste per capita	Waste	The amount of non-divertable waste generated per capita population (2016), kilogram (kg).
Diversion rate (%)	Waste	Percentage of waste diverted from landfill.



C.2 Performance

The following section illustrates the environmental performance context in which target development for the Beaumont Environmental Master plan will take place. Wherever available, targets set by each surveyed municipality are included with each respective performance metric. Beaumont's performance in terms of these metrics is not discussed due to the age and availability of the supplied data, which dates to the period 2011 to 2014. Select focus areas are accompanied by a potential target; these are targets which are less context-specific and can be linked to an existing framework (i.e. Canadian Ambient Air Quality Standards, 2015 Paris Agreement emissions targets).

C.2.1 Air

Jurisdiction	CO 1-hr (ppm)	NO ₂ 8-hr (ppm)	O ₃ 1-hr (ppb)	PM _{2.5} Annual (ppb)	1-hr d.m. (ppb)	24-hr µg/ m ³
Calgary	1.7	1.54	63	18.08	55	8.12
Red Deer	1.6	1.31	50.4	8.89	85	6.75
Lethbridge	0.9	0.63	51.6	5.47	70	5.44
Medicine Hat	–	–	55.9	6.88	–	4.35
Airdrie	2.9	1.61	255.4	6.44	68	5.84
Edmonton	5.6	3.61	59.4	10.45	78	7.68
Strathcona County	–	–	50.2	7.29	85	7.06
St. Albert	–	–	67.4	10.35	78	7.55

Supporting Information:

- Per the 2019 Alberta Airsheds Air Quality Report (Alberta Airsheds Council), “in Alberta, all monitoring stations see low risk at least 85% [“green”] of the time, with a provincial average Air Quality Health Index [AQHI] reading of 2.2 (based from over 285,000 hours of data.)”¹⁷
- As a member of the successor Edmonton Metropolitan Region, the City of Beaumont is subject to the (Edmonton) Capital Region 2012 *Air Quality Management Framework*.¹⁸
- **Potential target:** “Do not exceed “yellow” AQHI levels as defined by the Canadian Ambient Air Quality Standards (CAAQS) and Alberta Air Quality Objectives (AAAQO).

17. Alberta Airsheds Council, “Alberta Airsheds Air Quality Report” (2019).

18. Government of Alberta, “Capital Region Air Quality Management” (2012).

C2.2 Community Design



Supporting Information:

Community design has broader implications beyond a sole environment focus, and is subject to a number of existing plans and policies at municipal, regional, and provincial levels of government. As such, there is little need to provide new direction where relevant existing targets already exist. Indeed, we want to avoid undermining or otherwise distracting from realizing established targets. As a consequence, direction in the EMP will be to follow and support development and transportation targets already in place. These are:

- Density and intensification targets provided by the Edmonton Metropolitan Region Board and echoed by the City of Beaumont's *Municipal Development Plan*. These are a minimum greenfield residential density target (du/nrha) of 35, an aspirational intensification target of 10% (dwellings to built-up urban areas), and an aspirational urban and sub-regional centres density target of 100 du/nrha,¹⁹ and
- Direction in the Transportation Master Plan to increase the mode share of active transportation and transit.²⁰

19. Edmonton Metropolitan Region Board, "Re-imagine. Plan. Build. Edmonton Metropolitan Region Growth Plan – Schedules and Tables," 9.

20. City of Beaumont, "Our Connectivity: Transportation Master Plan", 29.



C.2.3 Ecology

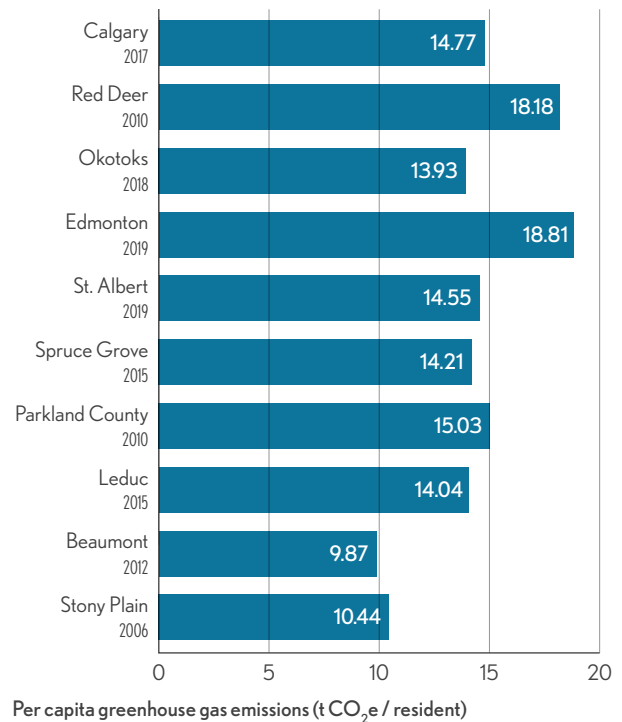
Supporting Information:

There is limited data and corresponding targets measuring ecological performance and health. Of the surveyed municipalities, only Calgary, Red Deer, Okotoks, Edmonton, Strathcona County, and St. Albert have indicators and/or targets in place to measure ecological health. The indicators and/or targets are summarized here.

Jurisdiction	Target
Calgary	<p>Riparian Areas: No net loss of riparian areas by 2026; 72% riparian areas considered healthy (<i>Riparian Action Program</i>).</p> <p>Naturalized Areas: Restore 20 per cent of Calgary's current open space to increase biodiversity (<i>2015 Biodiversity Strategy</i>).</p> <p>Tree Canopy: 20% tree canopy target by 2140 (1% increase per decade) (<i>2007 Parks / Urban Forest Strategy</i>).</p> <p>Invasive Species: By 2025, identify invasive species in Calgary's open space and complete strategies for their management (<i>2015 Biodiversity Strategy</i>).</p>
Red Deer	<p>Native Plants & Trees: 95% of trees are considered suitable for the area.</p> <p>Naturalized Areas: 14% protected areas as a percentage of overall urban area.</p> <p>Community Food Assets / Gardens: 1,029 community garden plots by 2035.</p> <p>Species Diversity: No single species represents 10% of total tree population; no genus more than 20, and no family more than 30%.</p> <p>Invasive Species: 50% of grass areas managed by integrated pest management.</p>
Lethbridge (developed by community group, not adopted by municipality)	<p>Riparian Areas: Riparian function in the Oldman River is healthy.</p> <p>Naturalized Areas: The majority of grassland habitat in Lethbridge is healthy; Lethbridge has significantly more areas of parks and protected areas than other cities.</p> <p>Tree Canopy: Lethbridge has established a significant urban forest.</p> <p>Invasive Species: Invasive plant species have limited distribution in the River Valley.</p> <p>Species Diversity: Lethbridge sustains its species-at-risk populations; native pollinators populations are sustained and improved.</p>
Okotoks	<p>Native Plants & Trees: Increase native plant species across the town by 30% by 2033.</p> <p>Riparian Areas: Increase the area of protected riparian areas by 25% by 2033.</p> <p>Naturalized Areas: Increase naturalized areas in new and existing development by 25% by 2033.</p> <p>Community Food Assets / Gardens: Increase local community food assets by 75% by 2033.</p>
Edmonton	<p>Riparian / Naturalized Areas: Connectivity within Edmonton's ecological network is increasing; the protection of Edmonton's existing natural areas has been maximized and restoration of additional lost, degraded, or fragmented areas is increasing.</p>
Strathcona County	<p>Riparian / Naturalized Areas: No net loss of representative ecosystems.</p>
St. Albert	<p>Naturalized Areas: Protect top three priority natural areas in the underdeveloped areas of St. Albert.</p> <p>Tree Canopy: Measure existing tree canopy cover and set future targets.</p>

C.2.4 Energy

Jurisdiction	Target
Calgary	Corporate: 20% below 2005 levels by 2020; 80% below 2005 levels by 2050.
Red Deer	Corporate: 50% reduction from 2010 baseline Community: Not more than a 10% increase from the 2010 baseline.
Lethbridge	Corporate: 40% reduction from 2018 level by 2030.
Okotoks	Corporate and Community: Achieve carbon neutrality by 2050.
Edmonton	Corporate and Community: Reduce Edmonton's greenhouse gas emissions by 35% relative to 2005, by 2035.
Strathcona County	Corporate: Reduce GHG emissions for municipal buildings by 15% by 2030, based on 2018 emission levels.
St. Albert	Corporate: Achieve 20 per cent reduction of total corporate greenhouse gas emissions from 2008 levels by 2020 Community: Achieve six per cent reduction of total community greenhouse gas emissions from 2008 levels by 2020.
Spruce Grove	Corporate: Reduce corporate GHG emissions by 50% and energy use by 40% per resident by 2035; Community: Reduce community GHG emissions by 35% and energy consumption by 25% per resident by 2035.
Parkland County	Corporate: 25% reduction by 2020 and 40% reduction by 2025 below the 2010 baseline; Community: 6% reduction by 2020 and 10% reduction by 2025 below the 2010 baseline.
Leduc	Corporate: 20% reduction below business-as-usual by 2030 or at 8% below 2015 levels; Community: 3% reduction from business-as-usual by 2030 or for emissions at 6% above 2015 levels.
Stony Plain	Corporate: Reduce corporate emissions 20% and community emissions 6% below 2000 baseline by 2019.



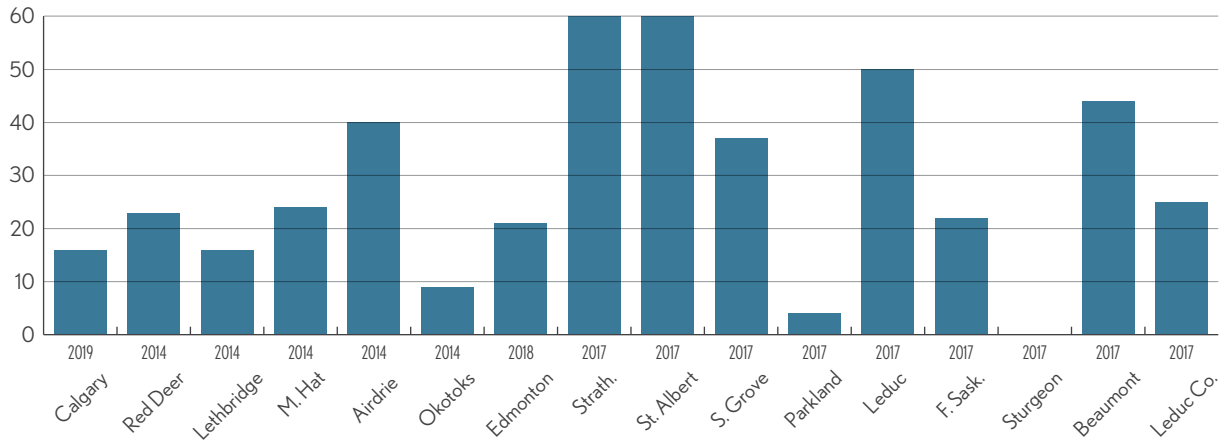
Supporting Information:

Under the terms of the 2015 Paris Agreement, Canada's federal government has committed to reduce its greenhouse gas emissions by 30% below 2005 levels in 2030, and has announced it will develop a plan to achieve a net-zero emissions future by 2050.²¹

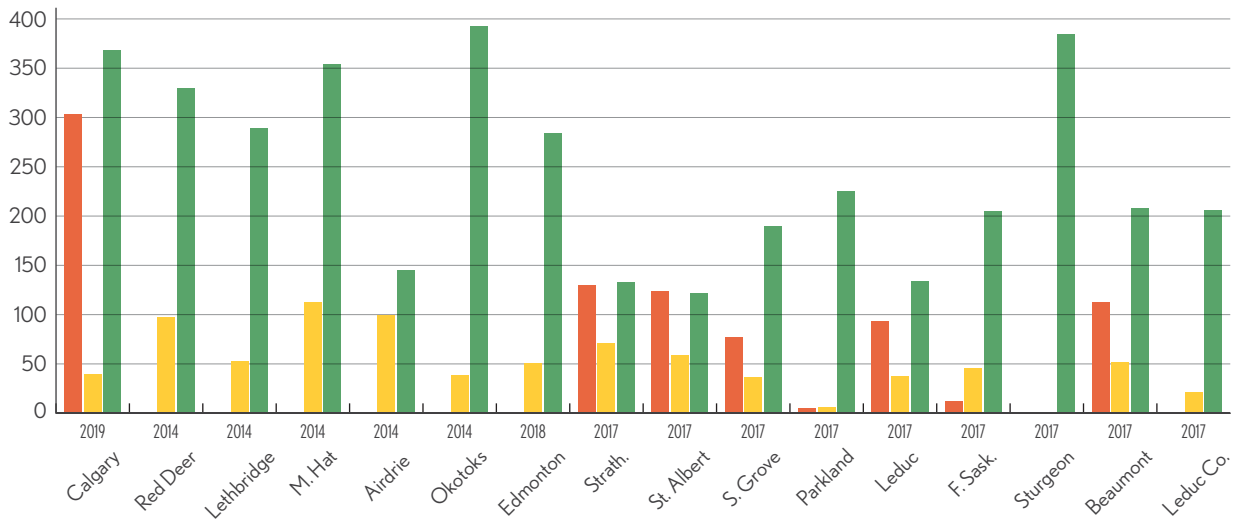
21. Government of Canada, "Progress towards Canada's greenhouse gas emissions reduction target," January 9, 2020.



C.2.5 Waste



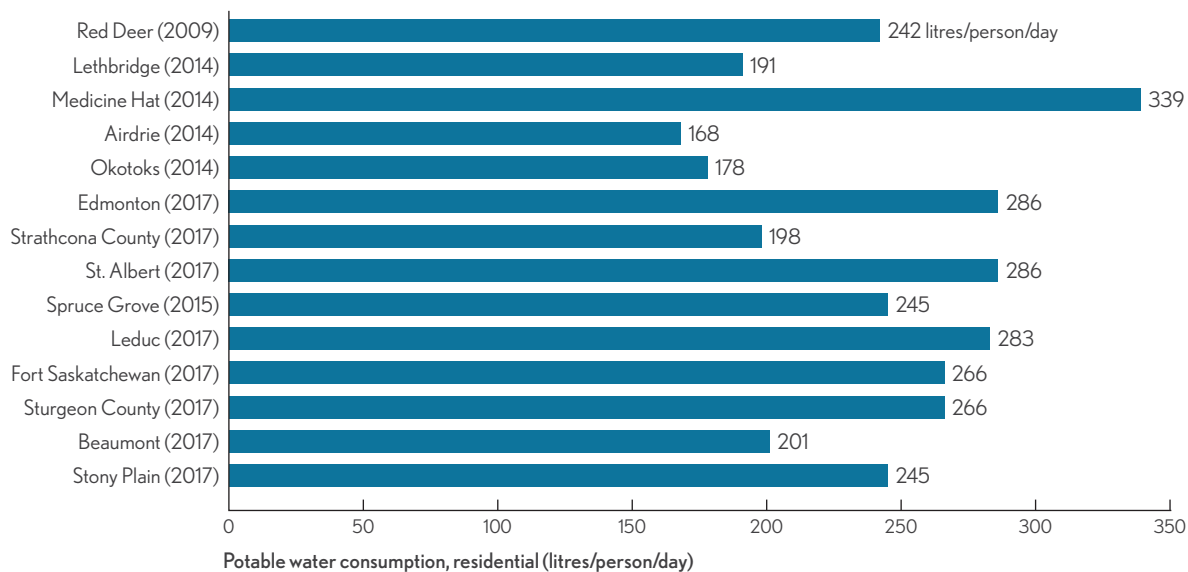
Waste diversion rate (%)



Composting, recycling, and waste per capita (kilogram/person) ■ Composting ■ Recycling ■ Waste

Jurisdiction	Target
Calgary	70% diversion rate by 2025 (2015)
Red Deer	50% diversion rate by 2035
Lethbridge	50% diversion rate by 2021, 65% by 2030
Airdrie	Increase diversion rate of 24% (2012) by a range of 12 - 40%
Okotoks	95% diversion rate by 2050
Edmonton	90% diversion rate, year over year
Strathcona County	89% diversion rate, year over year
St. Albert	75% by 2020
Spruce Grove	65% by 2020 (2013)
Parkland County	2017 direction to develop target
Leduc	65% by 2021
Beaumont (legacy)	50% reduction in waste from 335 kg / person / year

C.2.6 Water



Jurisdiction	Target
Calgary	Cumulative: 350 litres / person / day (l/c/d, residential, industrial, commercial, institutional)
Red Deer	Residential: 169 l/c/d ICI: 95 l/c/d (30% reduction from 2009 baseline, from existing 15% reduction target)
Lethbridge	Residential: 166 l/c/d
Airdrie	Urban municipal sector: 341 l/p/d (provincial AUMA recommended target)
Okotoks	Community-wide: 275 l/p/d or less by 2017
Edmonton	Urban municipal sector: 341 l/p/d (provincial AUMA recommended target) Residential: 194 l/p/d by 2020
Strathcona County	Residential: 200 l/p/d
St. Albert	Residential: Reduce total consumption to 200 l/p/d
Spruce Grove	Residential: 165 l/p/d by 2025
Leduc	Residential: 175 l/p/d by 2021
Beaumont (legacy)	Community-wide: 329 l/p/d (indexed to Canadian water consumption average in 2012)

Supporting Information:

- **Potable water use potential target:** Alberta Urban Municipalities Association recommended target (2014): “Alberta’s urban municipal sector will achieve an average per capita residential water use of 195 litres/person/day and a total per capita water use of 341 litres/person/day (30% below reported water use 2001-2006) by 2020 [and] Alberta’s urban municipal sector will maintain the volume of “unaccounted for” water at 10% of total water use (reported to be 10.1% in 2009).”²²
- **Potential potable water quality target:** “Drinking water in Beaumont meets or exceeds Government of Canada Canadian Drinking Water Guidelines.”
- **Potential surface water quality target:** “Surface water in Beaumont meets or exceeds Government of Alberta Environmental Quality Guidelines for Alberta Surface Waters.”²³

22. Alberta Urban Municipalities Association, “2014 Urban Municipal Water Conservation, Efficiency, and Productivity Plan – Targets and Actions for the Urban Municipal Sector” (2014), 2.

23. Alberta Environment and Parks, “Environmental Quality Guidelines for Alberta Surface Waters,” (2014).



Draft EAC Calendar

D.1 Midstream: Year 1 - 4

Timeline	Agenda	Quarterly calendar, with meeting structure, for (1) Midstream: Year One - Four and (2) Final: Year Five
Q1	1. Delivery of annual report to Council (Year Two through Five)	
Q1- Q3	<ol style="list-style-type: none"> 1. Review priorities for the following quarter 2. Provide update on departmental progress, contribution towards ongoing actions and targets 3. Raise associated implementation issues for group discussion 	
Q4	<ol style="list-style-type: none"> 1. Conduct review of the year's accomplishments 2. Iterate plan implementation (what have we learned from the year, how might we improve service delivery for the next year, and how might progress allow us to do more?) 3. Preparation of annual report (capturing themes, departmental experiences, and quantitative data reflective of the year) 	

D.2 Final: Year 5

Timeline	Agenda
Q1- Q2	<ol style="list-style-type: none"> 1. Review priorities for the following quarter 2. Provide update on departmental progress, contribution towards ongoing actions and targets 3. Raise associated implementation issues for group discussion 4. Recommendations for new environmental initiatives (as result of prior actions, new priorities, stakeholder feedback, or those found in Appendix A: Potential Future Actions)
Q3- Q4	<ol style="list-style-type: none"> 1. Review 2021-2026 plan implementation through assessment of environmental data, prior annual reports, and discussion with EAC members 2. Develop project terms of reference for EMP 3.0 Update (2027 - 2031) 3. Initiate EMP update process, anticipated to begin Q1 2027 (internal workplan development or external consultant search through RFP process)

